THE LANCET.

VOL. I.] LONDON, SATURDAY, NOVEMBER 25, 1843. [1843-44.

LECTURES

ON THE

DISEASES OF THE BONES AND THE JOINTS.

BY

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LECTURE VII.

Disease of the finger-bones from paronychia. Treatment of paronychia. Abscess and other occasional consequences of this disease. Local measures; incisions; removal of necrosed bone. Reproduction of lost portion of bone. Straight fingers and stiff thumb. Diseased hip-joint. Symptoms and appearances. Coxalgia sometimes complicated by signs like those of dislocation. Ulceration of cartilage and bones of the hip-joint. Suppuration. Second stage of coxalgia. Spontaneous dislocation of the femur. Displacement of the hip-joint an unusual occurrence. Treatment of hip-joint disease.

DISEASE of the *bones of the fingers* often happens from inflammation of the soft parts, or, as it is called, *paronychia*. We may, therefore, first say a few words on this subject. In the first instance the bones are not at all affected, these becoming secondarily involved, where the morbid action runs high, or the treatment is not sufficiently active and energetic in the beginning.

In superficial paronychia the cutis vera and matrix of the nail are the only structures concerned. There is severe throbbing pain in the finger, either in the last, or in that and the middle phalanx, attended with considerable swelling, redness, and increased heat; there is a tense feeling and frequently an itching of the skin, even at the same time with the more painful sensations. The patient is feverish, and is entirely prevented from sleeping, so long as these acute symptoms last. If they be not checked, matter collects under the skin, either behind or on one side of the matrix of the nail, and there the swelling appears more pointed and of a paler colour. If this be opened and the fluid, be it serous or actually purulent, evacuated, the swelling gradually subsides, the parts recover their natural state, except the nail, which is most frequently shed after a time, owing to the interruption in the secreting functions of the matrix during the inflammation. However, if the fluid be not thus got rid of at an early period, it may burrow under the nail and cause ulceration of the matrix. Here the painful symptoms continue much longer than in the former case, and the ulcer is brought to heal with a great deal of difficulty. So obstinate and intractable, indeed, is this form of the disease, that it has been called *paronychia maligna*, and not improperly, for I have seen, in some instances, the lymphatic glands inflame and ultimately become the seat of true malignant disease. In most instances, however, the ulcer, though contumacious, is still capable of being perfectly healed; that is to say, it may be cured without leaving any taint in the constitution, and without the slightest probability of reproduction.

The best way to treat such ulcers is to remove the nail completely, and apply the solid nitrate of silver once in every four or five days, but not more frequently. The caustic should be pointed and the point should be lightly turned under the skin at the base of the matrix. The part should then be dressed with lint and tepid water, and covered by an oiled silk finger-stall.

When paronychia is deep, the symptoms I have before mentioned are much more severe, and the danger proportionably great. The pain is more of a bursting and burning character, and extends up the arm, even to the axilla. The part throbs as though it would burst, and the radial artery will be found to pulsate much more strongly than on the healthy side. The pain appears worst at night, or when the hand is allowed to hang down. The swelling is rather greater and it is much harder than in the more superficial inflammation. In a day or two after the commencement of the pain, if the proper treatment have not been had recourse to, suppuration will take place, not immediately under the skin, but in the deeper structures.

In most cases of abscess in soft structures there is a certain relief to the throbbing pain as soon as pus begins to form; but it is very different in the present case, and, indeed, wherever the matter, when formed, is bound down by unyielding parts. It collects, then, within the sheaths of the tendons, or under the periosteum itself, and very soon the bone becomes diseased, and there is destruction of the sheaths of the tendons and the tendons themselves. Even where the phalanges are not necrosed the loss of the tendons by sloughing causes great impairment in the functions of the part; the finger remains constantly extended, and is a very great source of annoyance. Not unfrequently the *joints* are affected instead of the central part of the bones; and sometimes they are primarily diseased, owing to a ragged wound or puncture leading directly to their cavity. When this is the case the cartilage ulcerates; the ligaments become soft and sodden, and the bones may be made to move one over another, from side to side, often giving a grating sensation. This may also coexist with necrosis, or with carious ulceration of the bone itself; abscesses may form in different parts of the palm; the carpal bones are involved; and ultimately the whole hand is so diseased as to require complete removal. Such are occasionally the consequences of deep paronychia; and when you remember that much of this actually occurs within the first two or three days after the commencement of the inflammation, you will see that everything depends on your treatment of the part at the first onset. There is no time for waiting, or trusting to slight palliative measures.

If the patient apply to you within a few hours after the receipt of the injury, or the commencement of the pain and swelling, you should have recourse to the free local abstraction of blood by leeches. If this be not immediately attended with relief, or if the amount of benefit be only slight, they should be repeated soon, and the part should be very frequently fomented with hot or warm water, according to the feelings of the patient. Besides this, the hand should be kept elevated as much as possible, and the bowels acted on by saline purgatives. The diet should be lowered and the patient kept quite quiet, so as to avoid all circumstances likely to irritate or stimulate the parts, or to excite the system. If these measures do not succeed in a short time; if the tension, heat, and swelling be not diminished (say in twenty-four hours, for example), some more active measures must be taken. I should say that after two days you should not think of leeches; they are not likely, after so long an existence of inflammatory action, to quell entirely the local excitement, and in the meantime you are losing time, and the disease is extending more deeply. I have said that pus forms very soon, but you must not wait till you are quite satisfied that it is perfectly concocted. You must not wait till you feel fluctuation, but if the swelling, hardness, and tension remain, even though it be merely from excessive serous infiltration, you are warranted in making a free and deep incision in the affected part. This should be carried completely to the bone if the disease is deeply seated, because by doing so you prevent the accumulation of pus, and thus save the patient the pain of a second incision. A copious flow of blood follows this operation, and the infiltration is almost immediately diminished; the patient experiences instant relief, and, in general, the most painful part of the case is over, and there is little remaining to be done. Occasionally, however, inflammatory action runs so high in the part that you may be obliged, in a day or two, to make another incision over the phalanx next above the previous opening, and even in the palm. In this way you will very often prevent the disease from reaching the bone, and the finger will soon get well, with ordinary care and dressing. When the last joint is necrosed you can only wait and look on for a time. The incision which you have made will not quite heal up; a small opening will remain, surrounded by some pale, flabby granulations, and from this discharge will continue. On passing a probe into the aperture you feel the bare phalanx, and you examine it from time to time to ascertain whether the bone is loose. When it is so loosened you have merely to extend the opening slightly, and taking hold of the end of the phalanx with a pair of convenient forceps, you readily draw out the dead piece. It looks, at first sight, very like the whole phalanx; but, in general, if you look more closely, you will find that the upper end is rough, and has evidently been detached from the articular end which still remains alive. Thus the last joint is saved, and not only that, for the lost bone is reproduced, and the finger is again restored to its natural length, with merely a deep scar at the end. This favourable termination, however, cannot be expected when necrosis occurs in any of the other phalanges.

When the apparatus in the joint of a finger is destroyed and the cartilage ulcerated to such an extent that it cannot regain its natural state, little can be hoped from procuring ankylosis; for a stiff finger can be of no use, it is a great encumbrance, and from projecting so much beyond the hand, it is apt to be in the way and get injured. It is, therefore, frequently necessary to remove joints that are so diseased, otherwise the patient will be afterwards disappointed, and perhaps, after all, wish to have it removed. In cases, also, where the flexor tendons have sloughed away, and the finger is stiff from that cause, the same observation applies.

With the *thumb*, however, the case is totally different. A stiff thumb may be very

useful, as it may still be brought to approach the fingers sufficiently to grasp any object, and it is less in the way than a straight finger. When the joints of the thumb, therefore, are diseased, you should steady the parts by the usual means, and thus favour as much as possible the deposition of ossific matter.

We now pass on to *Diseases of the Hip-joint*, which, whilst they are more serious than most other affections of joints, are also more common than many of them.

All the diseases of the joints in the lower extremity are more severe in their nature and consequences, and generally more tedious in their progress, than the diseases of the corresponding articulations in the upper extremity. The reason of this is evident; because, in the first place, the joints are larger, the surface affected with disease is more extensive, and the general symptoms are thereby aggravated; and, in the second place, it is much more difficult to restrain the motion in one case than the other. When the arm is tied up in a sling the patient can get about and amuse himself easily, and never thinks of making use of the diseased member. When, however, there is any affection of the joints of the lower extremity, the individual so afflicted feels the tedium of confinement, and finds great difficulty (when not warned by actual pain) in avoiding moving about a little. This observation applies particularly to the hip-joint, because almost the slightest movement of the body, by also the moving pelvis, disturbs that articulation.

Disease of the hip occurs at all ages, but most commonly in children, owing to scrofulous deposit in the head of the femur, accelerated by slight injury. In these cases the symptoms are at first very slight; they come on slowly and insidiously, as it were, and often gain great way before any means are taken to combat the disease, or, indeed, before its advances are noticed. Perhaps the first thing which draws the attention of the parents of the child to something being wrong is, that pain is complained of frequently in the knee and inner side of the thigh, perhaps, also, in the ankle and sole of the foot. It may, then, be remembered that the child has for some time been in the habit of limping a little, and keeping one knee rather more bent than the other. Still, perhaps, no great importance is attached to this circumstance; it is supposed to be some of those erratic pains which children often have. "It will soon go off," most probably they say, "it is only a growing pain," and nothing is done. Presently, however, the pain and stiffness in the affected limb becomes more frequent and more complained of; the little patient feels most pain when he first begins to move about, and hence he gradually leaves off his exercises and amusements, and is fond of sitting down with his knee and hip bent a little. From want of exercise the general health begins to suffer, and perhaps then some steps are taken to discover what is the real cause of the child's illness.

Should such a case be examined in this stage of the disease, you will probably find the following appearances and symptoms:—The affected limb is decidedly smaller than the sound one; it appears thin and shrunk; it is bent a little forwards, so that the heel is raised from the ground, and the foot rests on the toes and fore-part of the sole; the weight of the body is borne chiefly by the sound limb, and the pelvis is consequently somewhat inclined. The nates are flattened, and the fold between the thigh and buttocks is hardly visible on the diseased side. If the patient be made to lie prone, on a flat surface, and perfectly straight, this fact will be very visible, and it will probably, also, be seen that the affected limb is *longer* than the sound one. The inequality is particularly visible at the heels and bends of the knees, which are not opposite one another. Such will probably be the principal appearances. Sometimes the spine is thrown into a slight curve from side to side. Now, whenever the thigh is abducted from its fellow limb, you will always find the patient complain more or less of pain in the hip-joint. The same is also generally felt when you gently strike with the flat of your hand either over the trochanter or on the heel, so as to force the head of the femur against the acetabulum. Although these symptoms are well marked they are often overlooked because they are not sought for. You not unfrequently meet with cases at the hospital and also in private practice, where nothing has been suspected to be the matter with the hip, and where blisters and various other severe applications have been made to the knee and ankle, because these are situations in which pain is most frequently felt.

This may be called the first stage of *coxalgia*. If the limb is kept as motionless as possible, by the necessary splints, all these symptoms may subside, and the patient recover without any further mischief. More frequently, however, matters get worse; pain increases in the groin and about the hip; the slightest movement causes very severe suffering, and the limb is kept quite stiffly bent, in order to prevent any pressure on the inflamed parts of the joint, or any stretching of the ligamentum teres, which is often inflamed, swollen and injected. It is said that disease of the hip often commences with inflammation of that ligament, owing to some injury of it; and I have certainly met with some most severe cases produced by falling with the thighs widely separated.

Coxalgia sometimes takes place in persons about the age of puberty, and in these cases the synovial membrane or cartilage being the first affected, the symptoms are

all very severe from the commencement. There is, then, severe pain in the articulation, much aggravated by motion in any direction, though most in abduction. The pain extends down the inner side of the thigh to the knee, probably along the course of the obturator nerve, which passes near the hip-joint. In some instances, as I have said, the limb is lengthened considerably. Part of this is real, from swelling of the parts composing the articulation, and from effusion of synovia into its cavity. Much of it is in some instances only apparent, and is owing to the manner in which the pelvis is thrown on one side, in order that the weight of the body may be borne by the sound limb.

When acute inflammation supervenes on a chronic affection of the hip, as sometimes happens from unusual exercise, awkward examination, or some sprain or injury of the joint, you find all the symptoms come on with great violence and rapidity; and, as some of the signs of dislocation exist, the case may be very puzzling unless you are on your guard.

An illustration of this observation came under my notice not long ago, in the person of a butcher, who, whilst standing on two blocks, washing out a slaughter-house, slipped and fell with his thighs widely abducted from one another. The surgeon who was called in found the patient suffering intense pain in the hip, and inability of moving it.

The injured limb appeared longer than the sound one, slightly advanced in front of the opposite knee, and in a great measure fixed. The trochanter was not so visible as usual, and there appeared a flattening of that side of the nates. At first, therefore, the natural suspicion was that dislocation of the hip had occurred, and the history of the accident was perfectly in accordance with such a view of the case. However, on inquiring into the patient's state previously to the occurrence of the accident, it was ascertained that he had for a long time been suffering from pain in the hip and knee; that he was in the habit of limping and keeping one thigh constantly bent in a slight degree. In short, it became evident that chronic disease of the hip had pre-existed; and thus the patient was saved the torture and extremely dangerous consequences of an attempt to reduce any supposed dislocation.

With regard to the amount of disease which you may find on examining a hip-joint in the *first stage* of coxalgia, there may be nothing more than increased vascularity of the synovial membrane, more particularly round the ligamentum teres and synovial gland, together with increased secretion of synovia; or there may be scrofulous deposit in the cancellated structure of the bones; or ulceration of the cartilage covering the head of the femur, and surface of the acetabulum. As the disease extends, the apparatus of the joint suffers more and more. The head of the femur is deprived of its cartilage; the cortex of the bone is next removed, the cancellous structure exposed, and in its turn ulcerated. In time the rounded head is entirely absorbed, and nothing remains but the neck of the bone.

In the same way the cartilage of the socket is ulcerated, and the bone itself eroded, so that the shape of the acetabulum is irregular, and its size considerably increased. Sometimes the bony structure in this situation is so extensively removed that the wall of the pelvis is actually perforated. This cannot occur without the formation of matter; the joint is distended, and the ligamentous structures give way; abscess forms around the hip, and, making its way in several directions under the muscles, points at some part of the thigh, generally on its posterior aspect. It may make its way on the inner side of the groin, but more frequently behind the trochanter, or at the back of the thigh, pretty low down.

Sometimes the pus passes into the pelvis, and finding its way to the sacro-sciatic notch, again gets out and travels amongst the hamstring muscles, down towards the popliteal region. Where cases have been much neglected, it may appear almost as low down as that point. When matters are in this state you have an example of what may be called the *second stage of coxalgia*. This is characterised by *shortening* of the affected thigh, measured from the anterior superior spinous process of the ilium to the knee. The thigh is usually flexed on the pelvis and turned inwards; the foot does not reach the ground, or the patient only just touches it with his toes, which are sometimes everted, but much more commonlyinverted. There is also a fulness over the trochanter, which appears further back than natural; and there is, in many instances, fluctuation in some of the neighbouring parts. All this time the parts still keep their relative situations; that is to say, the part of the neck (and head, if any) of the femur which remains still keeps in the acetabulum. It now and then happens, however, that owing to the flattening out of the acetabulum and absorption of the cartilaginous, ligamentous, and bony ridge surrounding it, the femur gradually slips out, or, as it is said, is "spontaneously dislocated." Or it may happen that a slight force applied to the thigh tears through the few disorganised ligaments which are left, and thus displaces the bone from its socket. This displacement may be in *front* of the acetabulum, the toes being turned *outwards*. More frequently it will happen that the the muscles will draw the head of the bone on to the dorsum ilii, in which case the limb is rotated *inwards*, and the foot inverted. Occasionally the head of the bone passes

into the pelvis, owing to destruction of the bottom of the acetabulum.

But although I thus talk of the comparative frequency of different kinds of secondary dislocations of the hip, I should tell you that *any kind* of displacement of the hip-joint from disease is a *very unusual* occurrence; and yet this is a doctrine which is not always taught. I can recollect the time when it used to be thought that the head of the femur was *generally* dislocated in such cases, as shortening of the limb existed; and I believe, even now, that the idea is by no means uncommon. However, on dissecting a number of these cases, with the view of ascertaining what was the state of parts around the joint, I found it extremely uncommon to find the head or the neck of the bone out of its place. The shortening is caused by the ulceration and removal of the top of the head of the femur, and in some cases the shortening of the neck, together with the thinning of the bone at the bottom of the acetabulum, and the widening of the cup-like cavity.

Now, as to the treatment of this disease, as I have before said, the surgeon is seldom called in at its commencement, and it is therefore difficult for him to say in what structure the affection first commenced. By the time assistance is sought for, all the parts of the joint are more or less affected; for wherever the inflammatory action commences it is not likely to remain long without involving the other tissues which are so near it.

In the first stage of coxalgia, notwithstanding that synovial membrane, ligaments, cartilage, and even bone, may be to some extent concerned, you may, by care and rest, bring about a cure without any deformity of the limb. It oftener happens that the case is neglected, and that ulceration of the head of the bone takes place, together with shortening of the limb. Of course it cannot be expected that a perfect cure (that is to say, without shortening of the limb) can be obtained when the disease has thus arrived at the second stage. The utmost that treatment can then do is to enable the patient in the end to walk about on a high-heeled shoe without the risk of causing fresh inflammation and repeated suppuration about the joint. The object then becomes that of preventing ulceration from advancing further, and, if possible, producing ankylosis of the hip.

In some cases of disease of the hip in adults, where dislocation has occurred, a new joint has been formed by the deposition of extremely hard osseous matter on the dorsum ilii. Here a cup-like cavity is, as it were, contrived by nature, and the presence of cartilage is made up for by the porcelain-like nature of the bony deposit which covers the end of the femur, &c. Where there is much pain, or where evident symptoms exist of acute inflammation about the joint, it may be necessary to abstract blood by cupping or leeches from behind the trochanter, and to employ hot fomentations frequently. If the pain continue after the acute symptoms have been relieved by these means, blisters, or other counter-irritants, may be employed with caution. As soon as possible, however, you should try to get a splint on to steady the joint. This may be made of lint soaked in mucilage, or, still better, of the prepared leather I have so often mentioned. It should be so fashioned as to embrace the joint on the outer side, extending partly up the side of the body, and down the thigh nearly to the knee. This should be kept on for a long time, until there is every reason to believe that all excitement of the parts has subsided. This splint is useful in all stages and degrees of coxalgia. In the earlier periods of the disease, when the symptoms are slowly coming on, little will be requisite to be done if the joint be only kept at rest by these means. If ulceration of the cartilage have taken place, the splint, by preventing the rough parts from grating over one another, affords the opportunity for them to regain their healthy state; and if there be much destruction of bone, it offers the only hope of being able to bring about ankylosis. When abscess occurs around or in the joint, it should be opened as early as possible, with a view of preventing its accumulation and burrowing under the muscles. The opening, I need hardly repeat, should be sufficiently free and dependent to obviate the necessity of making any second or counter-opening. It was once supposed that, in ulceration of joints the synovial fluid changed its nature, and became irritating and erodent, causing the bony structure to be dissolved away, as it were, by an acid. Some, indeed, would even propose to cut down upon the joint, and let out the synovia as soon as it was suspected that it had become vitiated by disease.

It is now known that pus has no such properties, but still there are reasons (which we have already explained) why it should not be allowed to collect. The discharge from an abscess need not (unless very profuse, or unless there be any irritation or tenderness about the neighbourhood) interfere with the application of a splint. An aperture may easily be made in the leather above the opening to the abscess, and the splint lined with oiled silk, so as to prevent the absorption of the discharge. So much for the local treatment of coxalgia. Now and then attempts are made to prevent shortening of the limb, and even to rectify it after it has occurred, by keeping the patient in bed, and applying a slipper to the foot on the diseased side, to which is attached a string and weight running over a pulley at the bottom of the bed. The weight is increased by degrees, and in proportion to the feelings of the patient.

All this may amuse the patient's mind, perhaps, but I do not think any good can come of it further than preventing motion, which is quite as well done by the splint. As to the idea of stretching the limb out again to its natural length after the shortening has occurred, it is contrary to all reason and experience, and is more likely to be attended with mischief than any permanent benefit.

HOSPITAL FOR THE CURE OF DEFORMITIES.

COURSE OF LECTURES

ON THE

DEFORMITIES OF THE HUMAN FRAME.

BY

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Delivered at the Orthopædic Institution, Bloomsbury-square, in 1843.

LECTURE VI.

Contracted toes from rheumatism and improper shoes. Deformities of the shoulder, elbow, wrist, and finger-joints. Treatment. Deformities from causes indirectly affecting the articulations. Contractures. Distortion from simple repose of a member; from superficial or deep abscess; from laceration, sloughing, gun-shot wounds among the fleshy parts, from burns, cicatrices, ulcers, and cutaneous disease; from hypertrophy and induration of fascia.

RHEUMATIC inflammation of the entire foot is occasionally succeeded by considerable rigidity of the phalangeo-metatarsal articulations, with thickening of the tissues surrounding them, and much deformity—partial ankylosis. The metatarsal articulation of the great toe is more apt to suffer than the remainder, and more particularly from gouty inflammation. Occasionally the affection of these minor articulations co-exists with contracted ankle-joint, or it may be accompanied with considerable contraction of the muscular and fibrous tissues of the sole, in which case the retraction of the flexor tendons causes rigid flexion of the whole of the phalanges, except the first phalanx of each toe, which remains extended, in consequence, I believe, of the resistance opposed to the flexion of the whole of the phalanges by the extensor tendons. On examination you will find the flexor and extensor tendons equally contracted; but, as the contraction of the extensors is consecutive, the relief of the contraction of the flexors will, unless the case be of long-standing, enable the toes to resume their proper position.

Considerable inconvenience in walking is experienced from this contraction of the toes, less, indeed, from the simple alteration of their position, than from the pain produced by the weight of the body being continually thrown in an improper manner on the metatarso-phalangeal articulations. In the natural relation of these parts the inferior round extremity of each metatarsal bone is received into the concave articular surface of the corresponding phalanx, and the metatarsal bone and phalanx each obtains its share of the weight imposed on the anterior extremity of the foot in locomotion; but when the first phalanx is extended in the manner above described, the inferior part of the articulation, and the round head of the metatarsal bone, are more exposed to pressure, and the ligaments are incessantly stretched and inflamed, causing continued suffering in walking.

Friction and manipulation should be employed in the *treatment* of these cases when they are slight; but as articulations affected with rheumatism usually remain tender for a considerable time after cessation of the inflammatory process, the patient will scarcely desire or permit any attempt to remove the resulting deformity until considerable inconvenience has been experienced. These cases commonly exist during several years before relief is sought, so that you will rarely be enabled to effect their restoration without section of the flexor, and, sometimes, of the extensor, tendon. When the complication of contraction in the sole exists, division of the plantar fascia may be essential. After the operation, and cicatrisation of the punctures, each toe should be secured by adhesive plaster, or by bandage, to appropriate splints, by which its perfect straightening may be accomplished.

A contracted and deformed state of the metatarsal joint of the great toe, and of the articulation of the first phalanx with the second phalanx of the second toe, produced by wearing improper shoes, is very common, and requires to be treated on principles similar to those which are applicable to contraction from rheumatism.

I have so little to say concerning contraction and distortions of the upper extremity from injury and disease of the articulations, that I shall be able speedily to dismiss the subject. A stiff immoveable shoulder, from rheumatic inflammation of the cellular tissues and articular surfaces, affords a not uncommon example of incomplete ankylosis. The obstacles to the recovery of the articulation thus affected are,—first, the tender state of the articulation remaining after cessation of the acute stage of the rheumatic inflammation, probably from persistence of chronic inflammation; secondly, alteration of the quality of the synovial secretion, with thickening of the capsular structures,

and, perhaps, occasionally, membranous adhesions, the whole of the symptoms being aggravated by the long-continued cessation of the use of the part and consecutive muscular contraction. The symmetry of the part is destroyed, principally from wasting of the deltoid. You may sometimes be enabled successfully to treat such instances of imminent complete ankylosis, even where other articulations may have been previously affected with true ankylosis,—first, by the administration of iodide of potassium or quinine, and sometimes colchicum and alkaline remedies, according to the condition of the stomach and kidney, and of the general health; secondly, by counter-irritation, frictions, manipulations, and passive movements of the joint.

Another deformity, the consideration of which properly belongs to this place, is the *long unreduced dislocation of the shoulder*, occurring from accident. These cases, formerly considered irremediable, illustrate the advantages resulting from division of tendons, as a preliminary to mechanical efforts to reduce the displaced bone. Dieffenbach has related two instances, the one in which reduction, after two years' luxation, was readily accomplished, with perfect recovery of the function of the joint, through section of the tendons of the pectoralis major, latissimus dorsi, and teres major and minor muscles. In the other, luxation having existed "many years," the same tendons, as well as the articular capsule, were divided, with only indifferent success.

Stiff elbow-joint occurs more commonly than any similar affection in other parts of the upper extremity. In addition to ankylosis from traumatic causes, the mobility of the elbow is often annihilated by rheumatism, by abscesses consequent on fevers, and, even more frequently, by strumous disease of the articular extremities. When this deformity results from traumatic or rheumatic inflammation, the immobility may be considerable, depending, nevertheless, on thickening of the ligaments and tissues exterior to the joint, and slight, if any, adhesions within. Consequently, entire mobility may be regained by a judicious use of the means hitherto enumerated.

Caries of one or more of the articular extremities often succeeds struma. The mobility may then be free within a given range, probably to the extent of a third or a half of the natural movement; but a sudden check to farther flexion or extension, according to the direction of the resistance, will be experienced on examination. The performance of perfect extension is more often interfered with than flexion. In these cases restoration can only be effected by persevering gradual application of mechanical power and the auxiliary remedies. Various instruments, the majority consisting of different applications of the common male and female screw to the front of the articulation, have been recommended for this purpose. In slight cases, a common straight splint, bound with moderate tightness, will suffice. Tenotomy may be advantageously resorted to in cases that have long existed. The parts which you may have to divide are the tendon of the biceps, and sometimes the mass of muscular fibres arising from the external condyle of the humerus.

The *articulation of the wrist* is peculiarly liable to become contracted from accident or disease. Often the amount of induration beneath the integuments and fascia of the part is so considerable as to occasion doubts of the existence of complete osseous adhesion of the bones. Occasionally, when voluntary movements by the muscles of the joints are entirely suspended, passive movements of the part, as of other articulations which are similarly affected, are accompanied with a distinct crepitating sensation, perceptible to the ear and touch. A roughness of the articulating surfaces, depending either on diminution or cessation of the secretion of the synovial membrane, on ulceration, on attrition of cartilages, and, probably, most frequently, in gouty cases, on the crystallisation of the urates of soda, or ammonia and phosphate of lime (tophaceous matter), secreted within and around the articulation. This crepitation is a sure indication of imminent complete ankylosis. The articulations of the fingers are equally liable to ankylosis, from the causes here mentioned, and the deformity produced in them by gout is very considerable. Occasionally the cretaceous matter is so abundant that the superincumbent skin yields to the pressure exercised from within outwardly, and is slowly removed by absorption, rarely with ulceration. By these means the cretaceous matter is thrown out, constituting "chalk stones."

As regards the *treatment*, I may observe to you that if the deformity have arisen from accident, or phlegmonous inflammation, or if the cause have been struma, the case being complicated by the cicatrices of fistulæ in different situations among the carpal bones, and complete immobility exist, it may be considered incurable. But in cases of incipient calcareous adhesion of the articular surfaces from "rheumatic gout," all appearance of inflammation having subsided, you may be enabled to restore the functions of the part. Frictions, manipulations, baths, the internal administration of iodide of potassium, and attention to the functions of the liver and kidneys, constitute the remedies you should employ.

Ordinary *stiff wrist-joint*, occurring from common inflammation, whether preceded by accident or not, usually yields to the general remedies that are applicable to all cases of false ankylosis. Sometimes the flexor tendons remain tense and contracted, and in-

superably oppose every attempt at mechanical extension. Tenotomy should, in such cases, be resorted to, and the resistance offered by the palmaris longus, the flexor carpi adialis, the tendons of the flexor sublimis, and even the flexor carpi ulnaris, may thus be removed. The section of as many of these tendons as may be necessary should not be effected by a common puncture; each should be divided at a different distance from the articulation, or on successive occasions, so as to obviate the chance of their becoming agglutinated in a common subcutaneous cicatrix, and consequent impairment of function. I shall more particularly allude to these operations when describing to you the deformities from paralysis and spasm.

The apparatus you may employ to effect straightening of the wrist may consist of a series of these metallic splints, adapted to the size and form of the hand and arm, and bent at different degrees opposite the wrist. By commencing with the application of one that is bent to nearly the same extent as the affected joint, the pressure is readily borne. According to the rapidity of amendment, a less bent splint may be substituted. Similar deformity of the fingers, generally, yields to mechanical means, unless the flexor tendons have sloughed, or become adherent to their sheaths from the previous inflammation. Occasionally you may find section of the flexor tendon requisite. A finger is more unserviceable and deformed when fixed in a straight position; this is usually preceded by destruction of the flexor tendon: the extensor then draws the finger unnaturally backward. Division of the extensor would be inoperative when the three phalanges are united into one bone. It is probable that a finger which is ankylosed in this manner may be transformed into a useful member, by dividing one or more of the phalanges, and causing reunion to take place, in a curved position.

I shall next proceed to consider a very important class of deformities, namely, those which arise from *causes indirectly affecting the articulations*, to which I assign the term of CONTRACTURES. The class of deformities the description of which I have just concluded, are produced by causes which operate *directly* on the joints, viz., injuries, and inflammation in its various forms. If you have well understood my remarks thereon you will remember that the serious character of those deformities depended on organic changes in the articular structures. Your study of contractures will be lightened by considering that the important articular structures are not necessarily involved in any morbid process. The deformities which I shall include in the term *contracture* are probably more numerous than those which are comprehended under any other subdivision, and therefore I shall detain you with some remarks on contracture in general before describing, in my next lecture, the individual distortions of this nature. This is the more especial, as I am aware of no adequate source of information on this subject to which I can refer you.

Contracture is the state of imperfect mobility, rigidity or immobility of an articulation, produced and maintained by causes which operate at *a distance* from the articulation. It is a *passive* state, the effect of contraction, and not the contraction itself, with which it is often confounded. The term has been applied by French writers to the muscular retraction of the limbs of children, produced by "spinal irritation," but it requires, in my opinion, a more extensive application. In the lectures on deformities from ankylosis I have shown you that in these affections the passive organs of motion are the parts primarily diseased; whereas, in every case of contracture, the articulation becomes only secondarily involved, the parts primarily implicated being the active organs of motion, the muscles and tendons, or the skin and aponeuroses. In both affections the abnormal condition of one set of structures ultimately involves the other, deformity from disease of joint (ankylosis) being combined with muscular contraction, and this condition of muscles, when primary, inducing ultimately rigidity and shortening of ligaments, but never true ankylosis.

Contracture may, therefore, be produced by various causes which disturb the equilibrium of antagonist muscles, — namely, simple rest of the part, as in the distorted limbs of superstitious devotees in India, abscess beneath the superficial fascia or burrowing among the deeply-seated muscles, loss of substance in the muscles and tendons from sloughing, gangrene, laceration by machinery, and gunshot wounds. Burns may operate in two ways, first, by production of gangrene of muscular tissues, secondly, by superficial sloughs, the cicatrix of which contracts the adjacent articulation. The long continuance of a sore state of the cutaneous surface, which favours repose of the limb, or its voluntary retention in a particular position, as from inveterate psoriasis, or eczema, or from an obstinate ulcer, may induce contracture of the neighbouring joint.

An interesting case of contracture, from a superficial ulcer of many years duration, was recently shown to me by my colleague at the London Hospital, Mr. Curling. Contractures from a sore state of the cutaneous surface result, in my opinion, from the voluntary retention of a limb in a position calculated to relieve the soreness. It is at the same time not improbable that in some instances an incident and reflex action of the cutaneous nerves (*vid* the spinal cord) on the motor filaments of the subjacent muscles may be a cause of their contraction; at all events, the

fact of the occurrence of morbid muscular contraction from irritation of the cutaneous surface may, as Stromeyer remarks, lead with more confidence to the therapeutic employment of vesicatories and rubefacient applications, as a means of restoring tone to debilitated muscles.

Hypertrophy and induration of fascia, whether obviously preceded by inflammation or not, are often accompanied by shortening in its fibres and contracture of the nearest articulation, as in contracted fingers and toes, from disease of the palmar and plantar fasciæ. But the most frequent causes of contracture are spastic contraction and paralysis of muscles, both of them being causes which destroy the equilibrium of opposing sets of muscles. It is to the consideration of the subject which I have thus introduced to your notice that I shall direct my remarks on the next occasion of our meeting here, commencing, then, with *contraction from spasm.*

CONCLUDING REMARKS OF THE

INTRODUCTORY ADDRESS

DELIVERED AT

GUY'S HOSPITAL,

AT THE COMMENCEMENT OF THE

MEDICAL SESSION, 1843 44,

BY

G. H. BARLOW, M.A., M.D.,
One of the Physicians to the Hospital.*

The wisdom and good policy of encouraging doctrinal and moral feelings during the study of medicine. Extensiveness of the education that may advantageously distinguish members of the medical profession. Division of the time of students under the ticket-and-certificate system. Clinical medicine. Examples set by Sir Astley Cooper, Dr. Babington, and Dr. Bright.

I AM well aware, gentlemen, that all the attainments and faculties which I have enumerated and described to you in the preceding portion of this discourse will be useless, nay, that they may become fearful instruments of evil, unless controlled by principle. A high sense of *duty* is, therefore, the crowning endowment of the medical character. This, however, can result only from the guidance of sound moral principle, and the restraints of religion on the conduct and the discipline of the heart. But without entering upon a subject which involves questions that should be approached with reverence, and are hardly fitted for an occasion like the present, may it not be well to inquire what enhancement of those moral and religious principles (which I will not now allow myself to doubt that you bring with you) may be expected to accrue from the cultivation of the natural sciences. Now, although it cannot be doubted that a rightly-constituted mind would imbibe notions of piety from the spectacle of the universe, even if those notions had not been imparted to it in some other way, and that when it extended its view beyond the system in which we move, and penetrated into that field in which ten thousand other systems revolve around ten thousand other suns, in ceaseless harmony, the almost irresistible inference would be forced upon it—

> "These are thy wondrous works, Parent of Good!
> Thyself how wondrous!"

yet the melancholy fact cannot be concealed that there have been men who, having limited their contemplation to those principles which present themselves again and again as the ruling causes of all that is taking place in the machinery of the universe, have allowed them to supplant the higher truth of a first cause, and thus have reconciled their minds (from other causes, no doubt, easily persuaded) to the most enormous of all absurdities, the denial of that truth. But you, having been made conversant with the proofs of most exquisite contrivance which are displayed in the mechanism of your own bodies, more complicated, by far, than that of the universe, will be enabled to reply that you are yourselves fearfully and wonderfully made, and will turn away in contempt from him who would persuade you to doubt that you had a Maker. Others, again, have perverted the same truths with less apparent presumption, though with no less pernicious effect, dwelling upon the vastness of the material system, calculating the incalculable number of worlds, overwhelming their minds with the immensity of nature. They do not pretend, indeed, to impugn the great truth of a First Cause, or his attributes of wisdom and power, but depose him from his throne as moral governor of the universe, by denying that he can concern himself about the conduct or destinies of a being so minute and contemptible as man:—

> "Scilicet hic superis labor est, ea cura quietos
> Solicitat?"

But you will have been taught to contemplate the minute as well as the vast in creation, and having learned from your microscopic researches that in a single cell, less than can be perceived by the unaided eye, motions and operations are going on as regular and as wonderful as the movements of the solar system, you will be enabled to return to such objectors the significant answer that in the hands of the Almighty Creator a single atom is as a thousand worlds and a thousand worlds as the minutest atom.

Yes; and leaving such objections, which will for the most part find favour only with those who, for the reason assigned in holy

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* See LANCET, Nov. 18, page 205.

writ, "love darkness rather than light," may we not pass on to conceive of those emotions of admiration and awe which must result from an extended survey of organised nature. When comparing family with family of the vegetable and animal world, not only of those which now exist, but those also whose fossil remains have been brought to light from the deep strata of the earth, and observing that, notwithstanding apparent differences, there are anatomical and physiological laws to which all are conformed; the student of nature listens, and hears all beings, from the remotest ages, and the most distant climes, uttering, in their varied dialects, one and the same code of organic existence. And if (as I believe it to be) the transition be easy from natural theology to religion, will not the evidence thus gained of the prevalence of the natural law, give an additional weight to the authority of the moral law? And that law is universal benevolence. Will not, then, he who has thus found that the "knowledge of nature is a rich storehouse for the glory of the Creator," feel a powerful impulse to promote that glory by the "relief of man's estate."

It has been my earnest endeavour, in the sketch I have just been giving you, to avoid, on the one hand, the error of contracting too closely the boundaries of your knowledge, and, on the other, that of extending them beyond the comprehension of every young man of ordinary acquirements and fair abilities. I have not, indeed, been proposing that you should become accomplished natural philosophers, or even profound chemists, botanists, zoologists, or physiologists, I know that it would be most extravagant to do so; but I am prepared to maintain that a knowledge of most of the leading facts in the sciences alluded to, as well as an acquaintance with the modes of thought and habits of mind applicable to each, is attainable by most, and, if not absolutely necessary, will be of immense advantage to you in your future career.

I am well aware that among many pursuits no man can excel in all, and that the foundation of eminence is a due selection, and a leading direction of the mind to those which are thus selected; but I am also convinced that all the operations of nature are so intimately connected the one with the other, and act and re-act so continually each upon each, that there is no class or division of them, an eminence in the knowledge of which can be attained by considering it apart from the rest. True it is that—

> "One science only will one genius fit,
> So vast is art, so narrow human wit;
> Not only bounded to peculiar arts,
> But oft in those confined to single parts.
> Like kings, we lose the conquests gained before,
> By vain ambition still to make them more;
> Each might his several province well command,
> Would all but stoop to what they understand."

But it is no less true that a man must be well acquainted with the laws and constitutions of neighbouring countries, or he can never be fitted to command in his own. I would, indeed, if it were possible, that you were each of you conversant with the whole world of natural science, finding yourselves at home and at ease in every region; but I would that you were so in order to be chiefs in your own particular province. I would that you were scholars, and not inapt ones, in natural philosophy and natural history, but I would that you were so in order that you might be masters in medicine.—But this can be the case only if the distinction between the preparatory and the conclusive stages of your medical education, or, in other words, between the acquisition of preliminary knowledge and of that which constitutes (if I may be allowed the phrase) the substance of your profession, be kept steadily in view. I have dwelt at, perhaps, tedious length upon the advantages of natural philosophy to a medical man, because there is a provision made at this school for your instruction in its different branches; and because, since few young men of education are in the present day ignorant of them, I conceived it would not be unprofitable to be made to understand the advantages that you will derive in the prosecution of your arduous but honourable career, from that knowledge of which, I trust, that many of you are already possessed. I have spoken of the benefit of chemistry and botany, not only from a conviction of their intrinsic value, and the direct and indirect advantages which you may gather from them, but for this additional reason, that since an attendance on lectures upon these subjects is enforced by the examining boards, I was apprehensive lest, by not appreciating their importance, you should be in danger of acquiring that habit, most ruinous to the discipline of the mind, of bringing your bodily presence into the lecture-room, and allowing your thoughts to wander elsewhere. I have recommended an acquaintance with comparative anatomy because I believe that it is capable of throwing much light upon the physiology of man; I would urge the high importance of physiology, as without a knowledge of the functions of the different organs of the body when in health you will never duly appreciate the changes produced by disease; and I would insist upon the necessity of anatomy, as the alphabet without which you can never read the pages of medicine and surgery. But I have before said, and I repeat it now, that not one of these branches of knowledge—no, nor the whole collectively—is medicine. Should you, at the termination of your pupilage, have acquired all these, and even have added to them an acquaintance with the theory of medicine, and yet have done no more, you will go forth to the practice of your profession with minds matured,

indeed, it may be, but ill-adapted to that sphere which is to give them exercise.

There must be a time, and that, too, long before the close of your studies, when all your acquirements and all your knowledge, of what extent soever, must be made to bear upon their ultimate object; and I would point to the lectures upon the practice of medicine, upon surgery, and upon obstetrics, as the lenses through which all these rays of light may be brought to a focus upon the subject of your undivided attention, that subject being clinical observation. The greater, however, the number of these rays, the more clearly will the object be discerned and understood.

To this end, too, you must apply all your knowledge of every kind, — all wherein your intellectual and moral nature has been improved at any period of your lives, but, above all, you must bring minds undistracted by other pursuits, and engage them in the great business of your lives; "for now," said a distinguished physician of the present day,* at the commencement of a clinical course, "that business may properly be said to begin. It is that by which you are to live and to take your station in the world—to do good or to do evil; to gain friends or enemies; honour or dishonour; and in which the great accountable talent committed to your charge will be well or ill employed."

Now, when I reflect upon these things, and see a student hurrying from lecture to lecture, and often, as appears to me, without any well-digested plan; and when, moreover, I see those who are shortly to be embarked in practice, hastening to the theatres of anatomy and chemistry, I cannot but be apprehensive that the proper course of education is often inverted, and that much time, of incalculable value,—yes, and much good industry too, have been bestowed in vain.

Although I am unwilling to lay down any precise rules in this respect, because I feel assured that it is impossible to do so in a manner that shall suit the varied circumstances of all, yet I think that in general, when the time devoted to hospital attendance cannot be allowed to exceed the three years enforced by the examining boards, the first season should be devoted to natural philosophy, inorganic chemistry, and anatomy; the following summer to botany, and to refreshing the memory in the subjects of the preceding winter. This will leave for the next session anatomy with physiology, organic chemistry, materia medica, lectures on medicine and surgery, with such time as can be spared from these subjects for attendance in the wards and at the inspections. The following summer may be given to medical jurisprudence, lectures on midwifery, and to more constant attendance in the wards; the remainder of your time should be devoted unreservedly to clinical observation and to practical lectures. I know, indeed, that it may be said, that this is all very well for those who have not the dread of the College of Surgeons, or of Apothecaries' Hall, continually before their eyes, but the case is far otherwise with those who have to prepare themselves for those ordeals. Now, although I do hope yet to see a somewhat different plan adopted, one which,—by substituting two or three examinations, at different periods of the student's progress, for the one now adopted at its termination—would ensure a regularity in his proceedings, and leave him more at liberty for clinical attendance at the close of his pupilage; still, having myself had some experience in examinations, I can undertake to affirm that if he have thoroughly mastered his preliminary subjects in the period allotted, he will find that a refreshing of the remembrance of them at the last will require but little time and labour, and, therefore, that the dread of his final examination need not act as a bugbear to drive him from the wards to his class-books, when his time ought to be devoted exclusively to the former.

Before, however, I quit the all-important subject of clinical observation, let me recommend to you all, when the proper time arrives, to engage yourselves either as clinical clerks, or reporters to the Clinical Society, as, by so doing, you will not only be procuring for yourselves opportunities the value of which you can at present hardly appreciate, but will also ensure to yourselves the full benefit of those opportunities, by the regularity of attendance which your sense of duty, both to the Society and to the medical officer for whom you report, ought to command.

Let me remind you, Gentlemen, in conclusion, that the great object of all your education is to make you useful practitioners of medicine, and that according to your usefulness you will be esteemed by the community at large. You may, indeed,—and I would encourage you to do so,—penetrate into the inmost recesses of the Temple of Science, but it must not be to gratify your curiosity, still less your vanity, but that like the priest of old you may come forth charged with a blessing for the people.

Go to that museum, and there you will see the memorial of a man* who, by persevering industry, not only in the acquisition and diffusion of sound professional knowledge, but also in its practical application, established a reputation unknown in no part of the civilised world, and that will be forgotten only when surgery shall cease to be studied as a science.

Go to the cathedral of St. Paul, the great national mausoleum, and there behold the monument of a not less distinguished man,†

* Dr. Latham.

* Sir A. Cooper. † Dr. Babington.

who, by the diligent cultivation, indeed, of science, but by the no less diligent application of it to the advancement of medicine and the benefit of mankind, acquired the universal esteem and confidence of the whole community, and was so venerated by his professional brethren that they came forward at his death to erect that monument to his memory, lest posterity should lose the benefit of his bright example.

These are two instances of distinguished men who rose to eminence solely by their industry, their high moral worth, and the sound professional knowledge which they acquired mainly within the walls of this hospital. I have chosen from those that are gone because it is difficult to speak of the living without incurring the imputation of flattery. I may, however, be allowed to remind you of one who has lately been compelled, in some degree, to withdraw himself from us, and whom we and the whole body of our profession in every quarter of the world are alike delighted to honour. This distinguished physician, as you are well aware, has been compelled, by the urgency of private calls upon his time, to relinquish a large proportion of his duties in this hospital, and, as you are many of you also aware, has been obliged by illness to retire for a time from the duties of his profession; when, therefore, I point to Dr. Bright as a living instance of what a physician should be, I call upon you to rejoice with me that one who is an honour not only to this school but to this country, is restored to health and his profession, and likely to be again amongst us to delight us with his society, to instruct us by his skill, and animate us by his example.

When you reflect upon the characters of such men as these, and observe the estimation in which they are held by mankind, you will perceive that there is a distinction to be gained solely by moral worth, sound knowledge, and professional usefulness; yes, and I can imagine that many an ardent spirit among you, animated by such a prospect, and emulous of their renown, is ready to exclaim,—

"Tentanda via est qua me quoque, possim
Tollere humo victorque, virûm volitare per ora."

ON

STAMMERING, ITS CAUSES, VARIETIES, AND TREATMENT.

By JAMES YEARSLEY, Esq., M.R.C.S.

To the Editor of THE LANCET.

SIR,—Three years have elapsed since my attention became accidentally drawn to the subject of stammering, and rare opportunities of investigating its nature, causes, and treatment, have been afforded me, which, it is to be hoped, have not been altogether allowed to pass by unproductive of good results. In calling in the aid of surgery to the treatment of certain varieties of stammer, I have been much misunderstood, misrepresented, and maligned, all of which have been patiently submitted to; for, novelty of any kind, as well as its author, must consent to run the gauntlet of opposition. I shall still be found an advocate of surgical treatment, but, with my views much modified, and it is on this latter account that I now solicit a place in your columns. I profess to be actuated by as sincere a desire to withhold no facts which may militate against my views, as to promulgate any which may be advanced in their support. I have studiously avoided aught calculated to stir up the ire and vituperation which so strongly characterised the communications of those who were opposed to my views on their first announcement in your journal; so that if, on the present occasion, any discussion arise, and is permitted by you, I hope it will be conducted in such a spirit as it may become me to participate in I have the honour to be, Sir, your very obedient servant,

J. YEARSLEY.

Saville-row, Nov. 9, 1843.

It may be interesting to give an explanation of the manner in which my attention first became directed to the subject of stammering, especially as the applicability of any description of surgical treatment to its cure has been so much questioned and disputed. For some years the treatment of diseases of the throat and ear had engaged much of my attention, and the fact could not long escape me that (through the intervention of the morbid mucous membrane, which I have elsewhere* shown to be the texture most frequently affected so as to produce deafness), vocal imperfections were common among the deaf. After removing enlarged tonsils, I had often observed that as the hearing became more acute, the voice, which, in such cases, is generally thick and husky, grew clear and strong. It was not unusual, also, to find a nasal speech disappear in consequence of the increased calibre given to the passages of the nose by the repeated introduction of the catheter in obstruction of the Eustachian tubes; and in some aggravated cases of deafness where dumbness had nearly ensued from the loss of hearing, I had witnessed the return of the voice on the restoration of the hearing.

In the latter part of 1840, I treated some patients at the Ear Institution, in whom enlarged tonsils were removed, a proceeding which not only relieved the deafness but contributed most materially to the removal of an impediment of speech, under which it was subse-

* See Medical Gazette for Dec. 3, 1841, "On Deafness from Morbid Conditions of the Mucous Membrane."

quently discovered that they had laboured. Thus, then, it happened that I was first led to contemplate the cure of stammering by the aid of surgery.

Such practical facts, accidentally developed, claim for the treatment a degree of credibility to which it would not otherwise be entitled; as, for instance, were it grounded on theory alone, as was the case with the terrible and now abandoned operation of Dieffenbach, who reasoned that because the division of a muscle or muscles was found to cure squinting, the same treatment would successfully apply to stammering.

In the outset of my investigations into this interesting subject, and the immediate results of my treatment, I was inclined to believe that excision of the uvula, and the removal of enlarged tonsils in cases where those glands were diseased, would be found to be the most general and efficient operative remedies. Since that time, however, a more extensive acquaintance with the subject has convinced me that operative measures must be diversified according to the variety of impediment, but that in no cases are the severe operations resorted to on the continent more likely to be productive of benefit than those which are simple in their nature, and of easy performance. I have learned, too, that surgical treatment alone is not generally sufficient, but that medical treatment and educational processes are of immense value as accessories to operative means, and, in fact, that they are in some cases equal to the removal of severe impediments without the aid of surgery.

I have done all in my power to reduce the empirical practices of the elocutionary teachers to simple rules, and to show their dependence on physiological laws, hitherto almost entirely misunderstood by those professors. All the manœuvres and mysterious rites of the elocutionists verge towards the inculcation of a very powerful agent in the management of the voice, whether in its healthy or disordered states, namely, *rhythm*, though this principle, from their ignorance of the means by which they produced their results, has been much diminished in efficacy, and has generally proved of little value to their pupils when removed from the presence of their preceptors. I shall return to this subject after some remarks on the nature and causes of stammering, when I shall also attempt to *classify* this strangely diversified affection.

It is highly necessary to acquire a clear conception of the difference between *voice* and *speech*, before we can understand the nature of vocal impediments.

Stammering is essentially a compound or mixed affection, not easily admitting of a definition in a few words. It can neither be dependent, as some have said, on the stoppage of the voice in the larynx, nor on the mere want of power to produce articulate speech by the palate, tongue, lips, &c. A dumb man, though this may appear paradoxical, always possesses the faculty of voice, properly so called; that is, he can produce simple sounds at will in the larynx, but he has no power of moulding such sounds into intelligible shape by the organs of articulation. On the other hand, a person with complete *aphonia*, or loss of voice, may yet possess in perfection the faculty of speech. He can converse in a whisper, and can perform correctly all the movements necessary to produce articulate speech, though the effort is but pantomimic, from the non-production of sound in the larynx. These facts have a direct bearing on the essential nature of stammering. A consideration of the two states, *dumbness* and *aphonia*, shows decisively that it is neither imperfection of the larynx, nor of the articulating organs singly, which occasions stammering. In fact, the very worst stammerers can produce at will, simple vocal sounds from the larynx, provided they do not attempt to combine them with articulation in the mouth, and so likewise they can imitate all the articulatory movements if they do not superadd vocal sound.

Though stammering can thus be shown conclusively not to depend on either imperfect vocalisation or articulation, taken singly, it is equally certain that it is an impediment to the performance of these two functions in a co-ordinate and proper manner. A stammerer cannot blend harmoniously the two functions together. At one time he is proceeding smoothly in his articulation, and is suddenly stopped by the cessation of sound in the larynx. At another time, the vocal sound is produced freely, but the muscles of articulation become suddenly and immoveably fixed or paralysed; the lips appear glued together; or "the tongue cleaves to the roof of the mouth." In many cases, as I shall show in my classification, the impediment generally occurs at one point, or at certain parts of the process in particular, and this circumstance produces the different varieties of stammering. This is another fact, in confirmation of what I have before stated, that the error or impediment arises from the inability of properly combining the elements of speech and voice. This is certainly the case, because when the difficulty *to sound* a certain letter is almost insuperable, the articulatory movements required, can be made with perfect ease if the effort be taken voluntarily from the larynx, and the vocal sound dropped. There is then no spasm of the lips or throat (as it may be, according to the nature of the case), but the spasm or impediment reappears, immediately sound is made to issue from the larynx. I again repeat that stammering, of whatever kind or degree, is nothing more nor less than an inability so to combine the functions of *voice* and

speech as to produce melodious and fluent language.

To go a step further, and investigate the organs which produce voice and speech, we find that in these two functions a large number of muscles, with their appropriate nerves, form the machinery by which articulate language is produced. The muscles, in their delicate and varied evolutions, are so many nicely adjusted mechanical forces, acting with regularity and precision under the controlling power of the nerves distributed to them. It is well known that by imitating the arrangement of the larynx, experiments have been performed in which sounds resembling the human voice have been produced, and the uses of the different parts of the vocal apparatus have been ascertained by observation on the sounds produced in this manner by artificial organs, or by the human larynx, after its removal from the body. Mechanicians have gone further than this, and have constructed imitations both of the organs of voice and those of articulation in such a perfect manner that their automata have spoken words, and even entire sentences. In the action of the human organ the nerves represent the impetus which puts the mechanical forces in motion.

In an artificially constructed organ, the mechanical parts of which it is composed would often be out of order, while in the human organism the construction and arrangement of the muscles, cartilages, and cords, are so perfect, that it is, comparatively speaking, rare for them to become unfit for their functions. Thus, I cannot now but consider that it is the nerves which are the causes of the functional derangement of the vocal organs; though I firmly believe there are numerous cases in which local defects in the organs themselves produce and aggravate impediments of speech.

Impediments of speech generally commence between the third and fourth year. Many patients date the first manifestation of them from the fifth and sixth year; some few as late as the eighth year; and in one case, which I have recently seen, it was said not to have commenced until the fourteenth year. It gradually increases in severity as age advances. From eighteen to twenty-five is the period of life in which it is seen in the most severe and distressing forms. After this age the stammerer begins to acquire a cunning which serves him in evading the infirmity to a surprising extent. This is done in a variety of ways. One of the principal means is the use of synonyms, or the employment of another word for the one which he knows before hand he shall bungle at. Another mode is dropping the consonant. Two or three examples will serve as illustrations. On asking a patient his name and residence, he replies with ease *ames *illiams, *anchester, — James Williams, Manchester. A certain officer could never give the word of command, *fire*. He got over it by suppressing the f. But it is said that on one occasion he felt confidencein his ability to master the difficulty, or, at all events, he resolved to try. Make ready, present,—f-f-f-f,—no, it could not be uttered. At last, boiling with vexation at his failure, he shouted, with the utmost vehemence, prefacing with an oath, "D——n your eyes, you know what I mean—*shoot*." A patient of the institution never, on any occasion, could ask for "a pint of porter." He overcame the difficulty by asking for "two half-pints of porter."

The period of puberty, which has the credit of chasing away or sensibly ameliorating most chronic diseases and bodily infirmities, appears to exercise no influence on stammering. As stammerers advance in years, they gradually lose all traces of the affection. I have been minute in my inquiries, and though I once heard of a case in a patient between sixty and seventy years of age, I never saw an elderly person who suffered from stammering, and I much question if the case alluded to was not one of paralysis of the vocal nerves rather than true stammering.

It is of rare occurrence in the female sex, the proportion of female cases being not more than 7 per cent. The statistics of my own practice agree, as nearly as possible, with those of M. Colombat in this respect.

It frequently comes on scarlatina, measles, hooping-cough, and the other special diseases of childhood, whilst the little patients are in a state of debility as a consequence of these affections.

The greatest diversity exists in the symptoms and modes of manifestation of the disorder. Some persons stammer most, and sometimes only, in the presence of strangers, others in the presence of friends. Mr. Holmes, a shoemaker, residing in Carnaby-street, was a case of the latter description. In several interviews I had with this patient I could never observe any impediment, and had I not been assured of the fact by those about him, I should have been inclined to think myself imposed upon. Wm. Standen, another patient, on the contrary, never stammered before friends. And it is a most remarkable circumstance that he had been married nine or ten months, after having paid his addresses to the young woman he married for upwards of four years, and had never displayed the slightest difficulty of speech before her. She expressed the astonishment she felt on first hearing him intimate his intention of consulting me about his stammer!

The weather exerts a remarkable influence over this affection; an east wind or a wet day is sure to aggravate its intensity. In some the disorder is intermittent, in others continued. All stammerers can talk fluently when quite alone. Most of them can speak

without difficulty to young children, and with diminished difficulty to those beneath them in rank and station.

It bears a great resemblance to *chorea*, which has been termed an *insane* state of the voluntary muscles. In the same sense, stammering might be called an insanity of the vocal organs; the only difference is that in chorea the disorderly movements are constant, and quite independent of the will, while in stammering they only occur during the voluntary attempt to speak. Some stammer at certain letters only, others at all letters irrespectively; some at the soft vowel sounds, others at the harsh consonants. Some stammer at the labial letters for a time, then at the lingual letters,—and then, again, at the guttural sounds. This *erratic* stammer is well exemplified in the case of a young lady, or, I should rather say, *was* exemplified, for she is now cured. For a month together she observed herself to stammer upon words commencing with b, p, m, v, f, in which the lips are required to approximate; the next month she would stammer upon lingual letters—c, d, j, k, l, n, r, t, whilst words commencing with the labial letters were uttered with facility. Most patients stammer during expiration, others in inspiration; some with the mouth open, and the lower jaw convulsively acted upon; others with the lips firmly closed.

With very few exceptions, stammerers are short-breathed. It is rare, indeed, to see a well-formed and expansive chest; on the contrary, it is generally contracted, and not infrequently deformed. Many are what is called chicken-breasted, or present some irregular projection of the ribs at the side of the sternum, produced probably by the convulsive action of the abdominal and diaphragmatic muscles. Almost all inveterate stammerers suffer pain from the violent straining which usually attends their efforts to speak.

Stammerers can rarely inflate the lungs to anything like the normal capacity. In order to put this to the test of experiment I have requently directed patients, indiscriminately selected, to take a full inspiration, and permit the breath to pass out slowly, and with an uniform and continuous singing sound. In the greater number the breath is exhausted in from five to ten seconds. A healthy person can hold out forty-five seconds. Another test has been frequently adopted, namely, to count out the breath; scarcely one will be able to reach thirty, whilst persons free from impediment can reach eighty. It may be as well to mention here that all stammerers can *count* without impediment; the reason will be given hereafter.

It may be truly said of stammering that the whole subject is in almost as confused and contradictory a state as the individual parts of the organs of voice and speech are during a paroxysm of the disorder. The facts in the one case, and the discordant action in the other, seem to be in most perplexing contradiction.

I have related only a few of the singular peculiarities of the affection, but with our present knowledge they are the mere curiosities of the disorder. When one symptom is proved to be true and almost invariable, instead of its pointing to the remedy, the chief use that can be made of it is to contradict an opposite but equally true and common accompaniment of this strange malady.

But there is one series of facts of a different kind, all of which harmonise and legitimately lead to a mode of relieving the disorder.

All stammerers can *sing*, however severe the impediment may be under which they labour. I never remember an exception.

All can read or recite poetry with much greater facility than prose, and many do not stammer at all when thus engaged. In my demonstrations before the profession I am in the habit of practically illustrating this fact in the following manner:—I have prepared beforehand a paragraph of prose written as it should be, on one side of the paper, and on the opposite side, the same prose written as if it were, in reality, verse.

To the astonishment of all present, although the stammerer may stumble at every word of the prose, written as prose, he will read off the same language unhesitatingly if written so as to appear verse. There are many instances of barristers who display a severe impediment in conversation, but who are ready and fluent in their delivery at the bar; of clergymen who are only free from their evil genius while in the reading-desk, the pulpit, or engaged in prayer.

Stammerers, generally, can repeat prayers or read the Scriptures without hesitation. Ask the most inveterate stammerer to say the Lord's Prayer, and you will be surprised at the facility with which he will accomplish it.

Stammerers, again, can count one, two, three, up to five hundred, with scarcely a boggle. They can also generally speak better when listening to music, and many are quite free when near a piano-forte, or any musical instrument that is being played on.

On consideration it will be found that in all these exercises of the voice in which a complete or partial triumph is obtained over the impediment, one and the same principle is brought into play:

THIS IS RHYTHM.

In the speech of the orator, the sermon of the divine, the pleading of the lawyer, in singing, in counting, in reading or reciting poetry, in reading the Scriptures, in prayer, and in the other examples offered, a certain musical *rhythm*, measure, or time, is ob-

served. All pleasant and agreeable speakers are good timists, and masters of rhythm. In listening to the clergyman in the pulpit, or the actor on the stage, the rhythmical principle may readily be recognised by beating time in accordance with the delivery of the speaker; and according as he observes or is deficient in this principle, his harangue will be agreeable or irksome to his audience.

Not a shadow of contradiction can be made to the fact that an observance of *rhythm* (whether consciously or unconsciously does not affect the question,) is the agency by which the exemption or relief from stammering is conferred in the examples I have offered.

This principle of *rhythm* is the key to all the educational trainings or orthophonic exercises, as they have been termed, to which the voice has been subjected by the professors of elocution. Few or none of them, however, appear to have appreciated its true value, or to have separated it from a variety of other regulations, such as posturising the tongue and lips, many of which could have but little influence on the stammer. We see the application of rhythm in the dramatic readings, which contributed, as we are told, so much towards the cure of Demosthenes, and in vast numbers of others since his day. The ancient orators assisted themselves in their oratory by causing a regular succession of musical sounds to be produced within their hearing. All teachers of elocution who at present profess to cure stammering make their patients, or rather pupils, read blank verse, in which a rhythmical measure is observed. Many stammerers relieve themselves instinctively by introducing a kind of chant into their conversation; others bow the head at regular intervals, and study to regulate the speech by an uniform motion of the head; others move the foot, or strike the right hand against the left. It is not the mere motion which produces the good result, but any action of the kind is a powerful auxiliary in establishing the rhythm first in the mind, and through it on the speech. Serres knew the good effects of a sudden movement of the body in the act of stammering, as is evidenced by his directing that some one standing near a stammerer should pull down the arm by a sudden jerk whenever the impediment appeared. He did not connect this fact with the principle I am treating of, and therefore it was of little use to him in the treatment of stammering. Unless the movement of the head, hand, or foot, be adopted successively or rhythmically, it is of little use. The gesticulations of public speakers are doubtless of great assistance in delivery, and upon close observation they will be found to preserve a measure or rhythm, however accidental the employment of them may seem.

The professors of elocution have put in practice the principle of *rhythm* in a variety of forms, each pretending to have a system of his own, quite distinct from those of his cotemporaries. I know of one of this class who walks out with his pupils, and teaches them to use their steps as a rhythmical guide by which to regulate the voice. He begins his treatment by desiring them to utter a single syllable at each step; for example, a—walk—in—the—coun—try—is good—for—the—health. When this is done with facility, he is then taught to utter two, three, or more words at each step. I know another who, singularly enough, is himself a bad stammerer, for, having but a crude notion of the utility of rhythm he has never been able to cure himself entirely, but is obliged to talk as if he were declaiming in a tragedy. Others make use of the *metronome*, an instrument by means of which musicians educate themselves in *time* or *rhythm*, the elocutionary teachers using it to regulate the sounds of the voice instead of music. In France another instrument called the *muthonome* has been constructed specially to bring the speech of stammerers under the influence of rhythm. The only difference between the two instruments is in the shape and in the name; the principle is alike.

In all these different devices and examples it is at a glance evident that *rhythm* is the grand agent to which all lesser forms and observances are subsidiary.

These, then, are the proofs that the relief and often the cure of stammering by educational, or, rather, by rhythmical training, are founded on a solid and rational basis. In the next place, I shall proceed to state the grounds for believing that a principle, quite as important as that of rhythm, is involved in the treatment of stammering by surgical means.

(*To be continued.*)

DISEASE OF THE URINARY BLADDER.

To the Editor of THE LANCET.

SIR,—In the following case of diseased urinary bladder some maggots were found in that organ at the post-mortem examination, and two of them I send for your inspection. I remain, Sir, your obedient servant,

S. D. FEREDAY.

Dudley, Nov. 13, 1843.

On the 3rd July I saw Joseph Round, ætat. 36, by occupation a collier, living near Dudley. He was of rather spare make, married, and had five children; his habits generally regular; his general health good up to ten months ago, when he suffered from symptoms of inflammation of the bladder, from which he has never perfectly recovered; but he has been able to follow his occupation more or less until the last month, when he

was taken with intermitting pain in the back and limbs, rigors, heats, and giddiness. His countenance now is anxious; he has some dyspnœa, and pulse 68; frequent vomiting; his tongue loaded with fur; and thirst. His stools are of a dark colour; he complains of pain across the loins, shooting forwards towards the left side, and there is tenderness on pressure below the left false ribs; he makes but very little urine, and passes it often; it is of very high colour, and he has smarting in the urethra after making it. He was directed to use hot fomentations to the painful parts, to take three grains of calomel and one grain of opium directly, and a diaphoretic mixture, composed of acetate of ammonia, and nitric ether, every four hours.

8. Pain gone from the loins; he has "striking" pain in the urethra and down the inside of the thighs, with difficulty in making water; he got up several times in the night to micturate. The urine is now pale; a light cloud floats through it on cooling; there is no deposit in the vessel; the urine is acid, and is slightly coagulable by heat and nitric acid. Œdema of the feet came on three days ago; the tongue is covered with white fur; he had one stool yesterday and two to-day, which are slimy, mixed with blood, and accompanied by tenesmus.

10. Feels much better; passes his water more easily.

19. Has been getting better until yesterday, when, on the evening before, he was taken with distention and rumbling in the bowels, followed by a great discharge of dark blood mixed with mucus; he has lost the pain in the back and smarting in the urethra, and complains now of vertigo, dimness of sight, noise in the ears, and forgetfulness; his tongue is pretty clean and moist; the umbilical region full and tympanitic; there is a little tenderness at the epigastrium and right hypochondrium, though with no increased dulness in the hepatic region. He feels quite full, although he has taken scarcely anything; the chest is resonant on percussion; the heart's action regular; the pulse 84, of moderate volume, and compressible; œdema has now disappeared from the feet and ankles. He gets up three or four times in the night to micturate; passes about two pints of urine in twenty-four hours, of a pale colour; and perspires freely.

24. He states that the urine often comes forked, and in two streams, and it sometimes stops suddenly when he is making it; the glans penis is enlarged from constant pressure. Upon introducing a sound I found slight narrowing of the passage in the membranous portion of the urethra. Nothing was felt internally but a rough indurated surface at the fundus and towards the right side of the bladder; once a distinct metallic sound was heard by my assistant as well as by myself, but it seemed to come from contact with a small point, which could never again be struck. It is right here to mention that when he was attended by us ten months ago he suffered a great deal from retention of urine, and in one instance a long time elapsed before the urine was drawn off, and a large quantity had collected. At that time, when he got better of the mucous inflammation, the symptoms induced me to sound him, and I then felt the same roughened surface, and thought I once struck a stone. Mr. Cartwright, who sounded him with me to-day, was inclined to the opinion of there being induration of some part of the mucous lining, that there might be encysted stone, and that the bowel complaint was sympathetic; during the following day he passed some clotted blood from the urethra, and some slight febrile symptoms appeared.

On the 29th there were several shreds of mucus floating in the urine. He now began to take decoction of uva ursi, with small doses of liquor potassæ, which had given him great relief in his last attack.

August 4. He now passes but little urine, often, and accompanied with much straining; the urine passed is of very high colour and strong offensive smell, and deposits pus directly it is made. The pubic region is much distended, with evident fluctuation; he feels quite full, and thinks his bladder full of urine, but he cannot void any. On passing the catheter the bladder seemed collapsed on the end of the instrument; no urine passed, and the end, on withdrawing it, was turned quite black.

5. On the introduction of the catheter to-day about half a pint of urine came away, when the end of the instrument became so impacted that it could not be rotated, although outwardly the bladder seemed as much distended as before; no mucus was found in the instrument, nor anything to stop it up.

6. Has been able to pass small quantities of urine without the aid of the catheter, of a strongly ammoniacal and fetid odour. After drawing off about a pint basinful of urine by the catheter, which he wished used from the relief it afforded him, the tumour seemed of the same size, somewhat hard, and more defined to the eye and touch than yesterday. Mr. J. H. Houghton saw him with me yesterday; the patient was placed in various positions, first leaning forward, then lying on either side, with a view to draw off the fluid by the catheter, but not a drop came. Upon depressing the handle of the instrument considerably, the curved end does not bulge above the pubes, as it does naturally in the upright position; and when lying down, that part is resonant which, in the upright posture, is dull on percussion. Mr. H. thinks that a sac is formed between the natural cavity of the bladder and the abdominal parietes, into which a considerable

quantity of urine has escaped; the tongue is moist and clean; the pulse 80, and soft.

10. The swelling is somewhat increased laterally; he makes about a teacupful of urine at once with much straining. I now drew off about three pints of urine; it required a good deal of coaxing; it was necessary to be constantly changing the position of the instrument to keep it flowing in a small stream; rough, gristly surfaces were felt here and there over the bladder; the urine was neutral, as tested by turmeric and litmus paper. He had had no sleep since the 4th, but complained of constant nausea with a furred tongue, the pulse at 92, and constipation of the bowels. He now began to take decoction of pareira brava, with small doses of sulphate of magnesia.

16. I drew off, with some difficulty, about a pint and a half of urine, and subsequently an ounce and a half of pure pus.

Sept. 7. He had not passed any urine for two days, and would not allow the catheter to be used on account of the severe pain which its introduction occasioned; the abdomen is now much distended; the perineum œdematous, and painful on pressure; some large sloughs have passed by the urethra.

11. Makes but very little urine, and states that when he goes to the night-chair the urine escapes from the rectum along with the fæces. The abdomen is now quite flaccid; the tongue moist; he is unable to stand from excessive debility and emaciation; is taking a quarter of a grain of acetate of morphia three times daily.

22. Much weaker; motions still fluid; abdomen soft and flaccid, with no pain; passed another large slough from the rectum a day or two ago, which seems in one part covered with mucous membrane.

29. His countenance now is much sunk, and he is altogether in a very debilitated state; his tongue is slightly glazed and very red; his abdomen retracted. Not above a few spots of urine have passed by the urethra for some time; the stools liquid, and passed oftener than usual.

Oct. 20. He is now almost a perfect skeleton; no urine passes by the urethra; his pulse is scarcely to be felt; aphthous ulceration of the mouth set in yesterday. He continued much in this state till the 27th, when, after complaining of pain in the bowels in the morning, he died in the evening.

Examination post mortem.

We had much difficulty in obtaining leave to examine the body, but at the examination, which we were allowed to make of the bladder only, about thirty hours after death, we found the lower part considerably enlarged and firmly adherent to the sides of the pelvis; the very upper part was thickened in the centre, and nearer to the pubes so thin and soft that in making a slight attempt to separate it with the finger it gave way. The interior seemed like a large cavern, not collapsing from the sides when opened; the surface was of an ashy-grey colour, and irregular, with sloughs an inch long, hanging from the sides in two or three places; the mucous membrane seemed here entirely destroyed; there was an opening communicating with the rectum about large enough to admit two fingers, where from its position, I should imagine the natural trigone vesicale would be; and farther back, behind this, inclining to the left side was a pouch large enough to hold a pigeon's egg, the edges of which were indurated to the feel. About two ounces of fetid purulent fluid lay in the posterior part of the bladder at the lowest part. I separated as much of the upper loose portion as I could, being about the size of half an orange, and which seemed permanently contracted; the substance was about an inch in thickness. The mucous membrane of this part was entire, of a darkish colour, and furrowed, so as to form a nidus for maggots, of which eight or ten crawled out when the part was put into spirit, and some of which were not yet separated from the husk. (I did not examine the detached portion until after it had stood in spirit a day or two.) There were some irregular thick deposits underneath the mucous membrane, of a hard white fibrous structure, entirely separate from the general thickening of the part, which was regular, and, in truth, hypertrophied. The prostate gland was not sensibly enlarged, and there was no calculus detected. The kidneys and intestines were not examined.

EMPLOYMENT OF NAPHTHA AS A REMEDIAL AGENT IN PHTHISIS.

To the Editor of THE LANCET.

SIR,—Mrs. A., a widow, aged twenty-seven years, by occupation an embroideress, consulted me on the 5th of March, 1843. She had enjoyed tolerable health till August, 1842, when she went to Brighton with her husband, who was then labouring under consumption, of which he died five weeks afterwards. She had been a close attendant upon him during the whole period of his illness, viz., three years. She attributed her complaint to cold and fatigue, with want of rest. She had cough, which she said had sometimes left her for two or three weeks, but it always returned again; while she sat quiet she was pretty free from cough, but on moving about, especially on ascending stairs, she was seized with it and considerable difficulty of breathing. She had no pain, and perspired only a little at night on the sternum. She felt a sinking at the pit of the stomach, with weariness, and wandering pains between the shoulders. Her pulse

was weak, tongue clean, and her general functions regular. Her strength had declined much of late, and her appearance announced great languor and delicacy of constitution, the form of the chest being flat. She had dark eyes and hair, and a fine white skin. She stated that none of her family had died of consumption. I had ascertained, however, that her father died of that disease. Her mother had also informed me that Mrs. A., about seven years ago, had a severe attack of inflammation of the bowels, and ever since she has been delicate, and latterly, in the winter months, she had observed her to be troubled with a hacking cough. Percussion over the right infra-clavicular space elicited a duller sound than it did over the left side, and the costal elevation and expansion were distinctly limited under the right clavicle. The respiratory murmur over the same space was harsh and tubular, with loud and prolonged expiration; the same physical signs were well marked in the right supra-scapular fossa. Percussion over the left side, posteriorly, elicited a much duller sound than over the right side, and the respiratory murmur was very weak, being in spots nearly inaudible; still, on a full inspiration, the vesicular murmur was developed, although imperfectly.

Dr. Hastings examined her also on the 7th of March, 1843, and he, too, pronounced her disease to be phthisis. I afterwards sent her to be examined by two eminent hospital physicians, both authors, and acknowledged stethoscopists. The first wrote as follows: "I think there is obstruction in the left lung, most probably crude tubercles. March 7th, 1843." The second wrote,—"I find collapse and dulness below right clavicle, with decidedly tubular breath-sound, and voice. There certainly are tubercles at the apex of the right lung. March 10th, 1843."

On the following day I put her under the naphtha treatment, commencing with ten drops, three times a day, which were gradually increased until she took sixty drops, three times a day. As this dose caused some cerebral disturbance, the dose was diminished to forty drops three times a day. She came to me once every week, evidently improving. On the forty-second day of the naphtha treatment I again sent her to the physician who last examined her, namely, on March 10th, 1843: he wrote,—"There is still considerable collapse and tubular phenomena, with dulness at the apex of the right lung, but the constitution seems much improved. April 21st, 1843." On May the 8th, 1843, I examined her carefully, and found the collapse at the apex of the right lung much less evident, the costal elevation and expansion being more free. Percussion produced a clearer sound; the tubular breathing was less, there being only a little roughness under the right clavicle, with rather loud expiration; the tubular breath-sound in the right supra-scapular space, had nearly been replaced by a rough vesicular murmur. Percussion posteriorly elicited dulness, which was nearly alike on both sides; and vesicular respiration, although weaker than natural, was perfectly established in the left lung posteriorly. Altogether her health had improved vastly; her cough had long entirely left her, and she could ascend quickly a flight of steps without experiencing her former shortness of breath. She expressed herself as being quite well, and wished to abandon the naphtha. As physical signs of disease, however, still lingered, she was persuaded by me to continue her medicine up to the present period. When I minutely examined her on October 3rd, 1843, and could only detect very slightly tubular breathing under the right clavicle, with very little dulness, and the vesicular murmur was very satisfactory in those spaces where it had been formerly abnormal. She said, "I am as well as ever I was in my life."

I had two patients who gradually augmented the dose of naphtha until they took four drachms in the twenty-four hours, but who after a few days were obliged to diminish the quantity. Mrs. A. still continues taking forty drops of naphtha, three times a day, and she always feels better while taking it. She has left it off for a week at a time on two or three different occasions, but she always, about the end of a week, felt worse, being attacked with lowness of spirits and sinking at the pit of the stomach, and shortness of breath. On the second day after resuming the naphtha she feels a decided improvement in her health and a rapid relief from all her unpleasant symptoms. I am anxious that she should continue her medicine whilst any signs of disease remain, although for the last six weeks I think the physical signs have been stationary, and I believe they will remain so. I am disposed to agree in opinion with Dr. Hastings, who states, at page 114 of his work on Consumption, that he believes the periphery only of crude and enlarged tubercles can be acted on by the absorbents; the central portion of the unorganised mass, being too far removed from their influence, may, therefore, remain for an indefinite period innocuous, similar to other foreign bodies, surrounded by their cysts. That the preceding views may be correct seems highly probable, and many valuable authorities might be quoted in support of them, but none can be more explicit than Dr. C. J. B. Williams, who, at page 193 of his able work on the "Pathology and Diagnosis of Diseases of the Chest," says, "under treatment and favourable circumstances of air and climate, these symptoms and signs have been gradually removed; in some cases entirely, *in others partially*,

but to such an extent that the patient's health has been considered, in a great degree, restored." And he further goes on to answer sceptics who may question such cases being phthisical, or, if they were so, that the lesions were entirely removed. "I admit this," he says, "but maintain that the existence of phthisis was as much proved as it ever can be in its early stage,—that precisely similar cases, when neglected, commonly run a consumptive career,—and we are not aware that such a combination of signs and symptoms can be produced but by lesions which essentially have a phthisical tendency."

These highly philosophic and practical observations cannot too strongly be borne in mind. We can have no proof stronger of an agent's remedial power than a gradual disappearance of disease, with a corresponding improvement in health, while the patient is under the influence of the drug; and I have shown that such has been the case with my patient. She is not a solitary instance wherein naphtha has acted so beneficially—I could adduce many. I have at present four cases of undoubted phthisis under treatment which are deriving great benefit from the remedy, and two of these cases have also been examined and pronounced phthisical by the highest authorities on auscultation. In two of the cases there is extensive softening; still they promise a favourable result. At a proper period I will publish the issue, whether successful or not. That the physical signs in Mrs. A.'s case may not further undergo any change, and still her general health improve, is, I think, fairly to be expected from what I have stated. The apparent discrepancy between two eminent stethoscopists in locating the disease in her case is readily accounted for when we recollect the capacity and quality, I may say the taste and sympathies, of various auscultators' auditory apparatus. Some hasten to their favourite regions, where they hear, or expect to hear, their diagnostic sounds and murmurs, and there with their ear or stethoscope dwell, forgetting that a general minute examination is necessary for a comprehensive diagnosis. Others, again, are so exceedingly quick with their ears that they believe they can say "yes," or "no," in an instant, with infallible accuracy. A post-mortem, however, alas! too often reveals their error.

In almost all the cases of early tubercular disease, wherein I have seen the most rapid effects from naphtha, there has been an early and, in some instances, enormous increase of appetite and an augmentation of weight, as has been noted in a former case of mine, published in THE LANCET of June 3rd, 1843, page 343. The odour of the naphtha is frequently to be detected in the urine, which is occasionally more abundant in quantity and of a much darker colour than naturally. Some of my patients have observed the odour in their sputa. Although this occurrence must be liable to some fallacy, still I think in two instances I have been satisfied of the fact from an examination of the sputa expectorated some hours after the naphtha has been taken, and in these two cases there was softening and caverns.

In every case that I have seen, the diarrhœa, so distressing an attendant in the last stage of phthisis, has been effectually checked after a few doses of naphtha. In two very acute cases, however, which are now under treatment, diarrhœa has occasionally come on, but it has hitherto been exceedingly manageable. The profuse perspirations are within a few days almost universally arrested; however, I have seen them return in cases where there was softening and caverns. Dr. Hastings has justly observed, at page 119 of his work on Consumption, that naphtha, like all other medicinal agents, will occasionally require to be administered with other known remedies. As the early detection of tubercles is of the most vital importance, the early stage being the period when naphtha has been shown to have the most marvellous and permanent effects in phthisis, so in tubercular deposits is the early detection and treatment of scrofulous inflammation which, being neglected, is fraught with the most direful results. In those who lead an intemperate life I have observed tubercular deposition to be very common, as well as the scrofulous inflammation, and both running their course very rapidly. I question whether nature does not often point out to us a lesson in the relief frequently following the spitting of blood; at all events, when there is pain and tenderness under the clavicles and between the scapulæ, counter-irritation, if not leeching, should be employed. I have seen the best effects in such cases result from naphtha and counter-irritation employed at the same time. To lower and build up the system occasionally at the same period is, I believe, admitted to be sound pathological practice. Counter-irritation would seem to retard the progress of the scrofulous inflammation until the naphtha, alone or combined, has effected a salutary change in the morbid action going on in the system. In two cases I have tested the superiority of naphtha over the ioduret of iron, so highly extolled in the treatment of phthisis. I have also seen the former advantageously combined with tr. ferri sesquichlor., as well as with the ammon. tart. ferri., where the latter preparations have been of little avail by themselves. Should naphtha in some cases fail, it will only be what happens every day to other well-known valuable drugs employed in other diseases. When Dr. Elliotson pointed out the value of creosote in cases of vomiting, it by no means followed that it would always act as an arrestive, which ex-

perience has proved; still no one would be so incredulous and false as to deny its general value as a medicine in cases of vomiting, &c. Why we should wonder and marvel at the therapeutical effects of ten or twenty drops of pyro. acet. spirit, or naphtha, any more than at one drop of hydrocyanic acid, or creosote, I cannot imagine. I would recommend others to try the remedy and judge for themselves; and, in justice, I would urge them to try it early in the disease, and not to wait until they are satisfied of the existence of phthisis, when patients are too clearly expectorating their lungs; or to waste valuable time in the hitherto lamentably unsuccessful routine of practice, and then adopt the naphtha treatment; such a plan of proceeding, I maintain, is not only unscientific but unfair; and to sceptics I would add, that until they have patiently and honestly so tested the powers of naphtha, their opinions must be valueless. Practitioners will discover, if they have not had introduced to their notice a new specific, that in a majority of cases of the earlier stages of consumption naphtha is a most valuable and powerful agent in checking the progress of this terrible disease.

I trust that the foregoing case and observations will be acceptable to the pages of your widely-circulated and independent Journal, which first announced Dr. Hastings' discovery of naphtha as a new therapeutic agent. I hasten to close my remarks with cautioning practitioners to be particular about the naphtha, as a matter of all importance. I have on two different occasions detected a harsh deleterious article being sold by druggists reputed for their good naphtha, whereby my patients suffered from severe vomiting and general disturbance, followed by a disgust for the medicine, which was with difficulty overcome. I am, Sir, your obedient servant,

D. Wilson, Surgeon.

Eccleston-square, Nov. 13, 1843.

ON

THE MAJOR PERIODS

OF

DEVELOPMENT IN MAN,

BEING A SIXTH CONTRIBUTION TO

PROLEPTICS.

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The course of human life has been divided into periods from a very remote antiquity. The most casual observer must see that there is a progressive evolution of each individual, through infancy, youth, and puberty, to the climax of complete development, both mental and corporeal; and from thence a gradual involution of the system, and a decline of all the powers, until the man descends into what has been expressively termed his second childhood, and, at last, into the grave. This cycle of change, looked at as a whole, gives to the mind the idea of ascent and descent,—not quickly or irregularly, but step by step; and since certain points are well marked in the course of life (as dentition, puberty, the decline of the sexual functions, &c.), and divide it into distinct periods, these were termed by the Greeks, with reference to this idea, *climacteric*, from κλίμαξ, *gradus*, *scala*, a step, or series of steps. The modern German term for the climacteric years, *stufenjähre*, step-years, expresses the same idea. These years and periods have also been termed septenary, from an early age, because the latter were supposed to comprise a lapse of seven years, so that the climacteric and septenary periods are synonymous. The origin of this idea of periods of seven years is lost in remote antiquity. It formed a part of the doctrines of Pygathoras, who, it appears, was not the founder, but only the European propagator of these doctrines, he having derived them from the ancient Egyptians or Chaldeans. As applied by the latter, they referred not only to the health, but to the events of a man's life. "Periculа quoque vitæ fortunarumque hominum quæ *climacteras* Chaldæi appellant, gravissima quæque fieri affirmat Aristides Samius septenariis." (Aulus Gellius, lib. iii., cap. x.) This doctrine of septenniads and septenaries has come down to modern times almost unchanged. Its history presents the singular phenomenon of a mere philosophical dogma passing uninjured through the most extensive revolutions in human society, and surviving the utter overthrow of empires and religions. Long after the age of Pygathoras we trace it in the Hippocratic writings; it is prominent in those of the later Greeks; it flourished in the middle ages; and it is extensively adopted by modern physicians. The editor of the "Medico-Chirurgical Review," for example, divides life into ten septenniads, after the ancient mode, asserting, further, that there is a difference of seven years between the two sexes, not in the actual duration of life, but in the stamina of the constitution, the symmetry of the form, and the lineaments of the face. (Economy of Health, second edition, p. 66.) It is manifest that the major vital periods can only be marked by changes in structure or function. By the observation of these changes the ancients professed to subdivide the whole period of life; and this plan, indeed, is the only safe plan for the modern scientific inquirer. He must observe the evolution of structure, of function, and of disease.

Diocles, the successor of Hippocrates both in fame and skill, wrote a book "concerning weeks." Macrobius has a notice of his doctrines, which describe the develop

ment of the individual man as follows:—The limbs of the male fœtus are distinct at the seventh week and the birth takes place at the ninth month, but if they be distinct at the fifth week, birth takes place at the seventh month. If the infant survive the seventh hour, it will probably live; at the end of seven days the umbilical cord sloughs off; in 2×7 days the infant perceives the light, and in 7×7 days it turns its head to follow with its eyes the objects presented to it. When seven months old, its teeth begin to develop; in 2×7 months it can sit without fear of falling; after 3×7 months it speaks; in 4×7 months it is sufficiently strong to walk firmly; and at 5×7 months it has an aversion for the breast. At the age of seven years it loses its first teeth and speaks distinctly; at 2×7 years it attains the age of puberty; at 3×7 the beard appears and the youth ceases to grow in height; and at 4×7 he ceases to increase in size. In 5×7 years the man is at his full strength, and so continues at 6×7; but at 7×7 the strength somewhat diminishes. Lastly, at 10×7 (the two most perfect numbers) are the limits of life, and those who have passed this term are exempt from all labour. (Le Clerc, Histoire de la Médecine, p. 281.) "The days of our years are three-score years and ten." So wrote Moses, a philosopher, poet, historian, and statesman, the supposed fellow-student of Hermes in the college of On, and undoubtedly a man learned in all the learning of the Egyptians; and he adds, almost immediately, "so teach us to number our days that we may apply our hearts unto wisdom," as if he had been pondering over the philosophy then current, and thinking how stoically it calculated the duration of the health and life of man, numbered his days, and hopelessly demonstrated their termination.

The doctrines of Diocles are distinctly laid down in the Hippocratic writings, especially in the book entitled "De Carnibus," and in those "De Septimestri Partu" and "De Octimestri Partu," written apparently by the same author. The writer refers to the septennial phases, and specially notes the teeth developed in the fourth septenary, which he terms *moderatores*. That the life of man is circumscribed by the number of seven days is manifest, he observes, and then refers, like Diocles, to the periods of fœtal development, but introduces *decades of weeks*, and observes that the period of utero-gestation is four decades of weeks. He also states the doctrine of equal and unequal days; connects the periods of fevers with the periods of development; and refers to the full moon as having influence.

Some critics have remarked that the book termed Περὶ Σαρκων (De Carnibus), ought to be entitled Περὶ Ἀρχων De Principiis, *concerning principles*. It is very probable that this and the two following books constitute an exposition of the Pygathorean doctrines as they were applied to transcendental physiology and medicine when the author wrote.* Hippocrates was thoroughly imbued with these views, and has left several practical observations. For example, he says that convulsions do not accompany fever in patients above the age of seven years, and that if they do, they indicate danger. According to him, the following diseases do not attack individuals under the age of puberty, or fourteen years:—inflammations of the lungs, pains in the side, gout, diseases of the kidneys, varicose veins of the legs, menorrhagia, cancer, a species of leprosy (vitiligo), a disease termed deflexion on the medulla spinalis, hæmorrhoids, and a disease of the intestines termed *chordapsos*. From the fourteenth to the forty-second year, any kind of disease may attack the system, but from the latter to the sixty-third it is exempt from struma, from calculus in the bladder (unless it existed previously), from defluxion on the spinal medulla, from diseases of the kidneys, unless arising in previous years, from bleeding piles, and from menorrhagia, except when connected with antecedent disease. These statements, whether considered physiologically or pathologically, are correct upon the whole.

The preceding remarks must serve as an exposition of the doctrines of the ancients regarding septenaries. It now remains to inquire how far these doctrines are true, and what practical benefits can be derived from them.

In man, life may be divided into three great periods. The first may be defined as extending from the commencement of intra-uterine existence to the *complete* evolution of the sexual organs; the second comprises the period in which those organs are active; and the third extends from the period when they cease to act to the termination of life. These are clear and well-defined epochs, but it is difficult to fix their precise dates, for *all* vital changes are gradual, and do not admit of exact limitation. Similar difficulty is experienced in the attempt at a natural classification of animals, and is only overcome by having transition or inosculant groups. We may adopt a like expedient here. The first period may be stated as comprising 21 years, the second 28 years, and the third 21 years. The secondary periods of the

* Burdach, the German physiologist, adopts the decade numeration in a work he has published on the periods of life, entitled "Die Zeitrechnung des Menschlichen Lebens;" Leipzig, 1829. According to M. Quetelet (for I have not seen the book) he divides life into ten periods of four hundred weeks each, and thus makes an age of the first dentition, adolescence, &c. In the first period is a secondary one of forty weeks, the age of lactation.

first great period will be seven, namely,—1, intra-uterine life; 2, the period between birth and the first dentition; 3, the time occupied by the first dentition; 4, the period between the first and second dentitions; 5, the time] of the second dentition; 6, the period between the latter and commencing puberty; 7, the time occupied in the evolution of the reproductive organs. The second great period will comprise three minor periods. First, the perfecting of adolescence from 21 to 28; secondly, the climax of development, or status of life, from 21 to 42; and thirdly, the septenary of decline in the reproductive powers, extending from 42 to 49, after which latter age conception rarely takes place. The third comprises also three periods, the first from 49 to 63, the grand climacteric; the second from 63 to 70, or old age; and the third from 70 to death, the years of *ætas ingravescens*, or decrepitude. In fixing these epochs I have followed the generally-received septennial division, being reluctant to make any innovation thereon. It would, I think, however, be more in accordance with modern science to date, not from the birth, but the conception of the individual. If this be done, each great period should be calculated as commencing nine solar months earlier.

Those of the readers of THE LANCET who may have perused the first paper in my series would observe that the periods of development in insects were more particularly alluded to as establishing the minor periods, namely, those in relation with critical days, the catamenial period, &c. These phases of development, in birds, are indicated in most instances by moulting, a process in which the mucous membrane of the whole system is implicated, as well as the skin and its appendages. In all birds a moult takes place sooner or later after being hatched, but it does not clearly appear what dentition (for this is analogous to moulting) corresponds to this moult. I am inclined to think, however, that its analogue is neither the first nor the second dentition, but both. The plumage characteristic of the sexes begins to appear at this moult, and it is always a period of danger to domesticated birds, as peacocks, turkeys, pheasants, canaries, &c. As iron is recommended for their cure, the state of health seems analogous to the chlorotic condition of young people. Buffon remarks that the period is analogous to dentition in children, meaning, I suppose, the first. In turkies it occurs in six or eight weeks after the hatch; in peacocks, four weeks; in partridges, twelve weeks; in canaries, five or six weeks. The period during which the eyes of some mammals are closed after birth is worthy notice, this being evidently heptal. In whelps it is fourteen days; in bear-cubs, twenty-eight days. It may be possible that the idea of Diocles, respecting the first use of the eyes after birth, may have some foundation in truth. That some change takes place in the infant in the eighth week may be fairly inferred from the fact that the man with ichthyosis, (the porcupine man) whose history is detailed in an early volume of the "Philosophical Transactions" (1731), and who transmitted his disease to his progeny, stated that the cutaneous affection appeared in himself when about seven or eight weeks old; and we find, subsequently, that his six children had the disease first at the same age. The tusks of young elephants are shed in the twelfth or thirteenth year, but the cheek-teeth appear six or seven weeks after birth. But the seventh and fourteenth days of infants seem to constitute periods. M. Quetelet finds that the weight of an infant diminishes sensibly immediately after birth, and does not begin to increase until after the seventh day. In 1810, Dr. Holland published a table of deaths in newly-born infants from tetanus, in the Westmann islands, Iceland, and denoted the days most fatal: in 185 deaths, 75 took place on the seventh day. A few hours must be allowed for retarded labour and errors in computation, but if we take the sixth, seventh, and eighth days the average of deaths is 37¾ daily, while the average of the remaining 18 days is only 4. An increased mortality took place on the fourteenth day after birth. (Edin. Med and Surg. Jour., vol. viii., p. 207.) The fourteenth day after birth is marked also by changes in the lower animals.

The order of development of the teeth in man is an interesting subject, as upon it we must principally rely for determining the periods of development in the system generally. Mr. Goodsir's researches are exceedingly interesting, as marking their gradual hebdomadal evolution in the embryo and fœtus, but are not sufficiently accurate for our purpose as to the *time* when the changes occur. Previously to the *eruptive* stage, or common dentition, there are three phases of development: the *papillary*, commencing about the seventh week of fœtal life, the *follicular* in the tenth, and the *saccular* in the fourteenth week, which continue until the eruptive stage, about the seventh month after birth, when the four central incisors present themselves. After this period the other teeth appear at intervals not yet precisely fixed, the first dentition being terminated, however, by the end of the thirty-sixth month. All is then quiescent for three or four years, or until about the middle or end of the seventh year, when the first true molar makes its appearance, and which, according to Mr. Goodsir, is analogous to the milk-teeth in its mode of formation, the permanent central incisors appearing about the same time. Mr. Saunders has proposed to make use of the development of the permanent teeth to ascertain the ages of factory

children, and his table, deduced from several hundreds of observations, is as follows:—

The first true molars appear at the age of	7 years.
The central incisors	8
lateral incisors	9
first bicuspids	10
second bicuspid	11
canine	12 to 12½
second true molars	12½ to 14

The third pair of molars, the *dentes sapientiæ*, appear later; according to Meckel and Goodsir, at from 16 to 20 years.

In animals generally the development of the teeth is closely connected with the evolution of the reproductive organs. The tusks of the stallion, wild boar, and walrus, are sexual, and are simply canine teeth of an unusual size. Upon inquiring how far the teeth are related to the reproductive organs in man, it is interesting to observe that there is occasionally a coincidence of development between the two, which, *à priori*, would seem improbable. From time to time instances of precocious puberty have been recorded, and it would appear that the change in the ovaria or testes, and in the system generally, has occurred concurrently with a period of about forty weeks after birth, or with the first or second dentition. I have collected 17 instances of this kind, with the following results:—5 were males and 12 females; of these, 3 males and 1 female were more fully developed than usual at birth; of the remaining, 1 male and 3 females exhibited the phenomena of incipient puberty at the age of eight or nine months, 1 at two years, 1 at two years and a half; 6 had the catamenia or were fully developed at three or four years, and 3 were perfect women at eight years. Two of the latter were pregnant at that age, and the remaining one lived to have a numerous family. In all these instances in which the growth of the teeth is alluded to, it is to state that it was irregular. (*Vide* Lond. Med. and Phys. Jour., vols. vii., xxiv., xxv., lxv; New Lond. Med. and Phys. Jour., vol. ii.; Med.-Chir. Transactions, vol. i., ii., xii., &c.)

It is probable, indeed, that sexual development takes place in these cases, as well as normally, *per saltum*, an effort being made just at the time when certain teeth are appearing; after the tooth is perfected, and the constitutional effort has ceased, so also will the nisus in the ovaria or testes. Occasionally the catamenia appear in young females about the age of twelve or thirteen, for once or twice, when the canine teeth are protruding; and then cease, to re-appear only when puberty fairly commences, about the age of fourteen, the period at which the second molars burst forth. Taking the appearance of the teeth as indicating the periods of a constitutional nisus, we must look upon the third molar teeth as marking the commencement of that last stage of development in which the individual is perfected.

Upon a review of dental development it will be observed that the periods lengthen as age advances. First, the primary papillæ appear hebdomadally in the fœtal state; then, during the eruptive stage, the teeth succeed each other at intervals of six or eight weeks, but afterwards of three or four months. During the second dentition the interval is at first a year, then a year and a half, or two years, then four or five years, The dentition observed at an advanced age I shall notice subsequently.

What relations have these dental periods to function, disease, and death? First, as regards function. The development of the thorax in males, concurrently with the testes, alters the functions of the lungs; besides, as plants consume a larger quantity of oxygen while flowering, or, in other words, when at puberty, we may look for an increased consumption in animals and man at puberty. Now, M. Andral has found that the excretion of carbonic acid from the lungs is greater in males than in females after eight years of age; in the former, at puberty, the quantity suddenly increases, while in the latter, when the catamenia commence, the excretion is as suddenly arrested, and remains stationary in quantity, and almost as small as in childhood, so long as the monthly nisus continues: when this ceases, or when pregnancy takes place, the quantity immediately increases. In males the excretion begins to diminish in quantity at the age of 30; between 16 and that age it is double that excreted by the female. M. Bourgery made experiments on the *capacity of the lungs* in the two sexes at different ages. He found that the volume of the respiration of the male doubles that of the female, and that the plenitude in both sexes occurs at the age of 30. The volume of air required by an individual in an ordinary respiration augments gradually with the age. The relations between the ages of 7, 15, 20, and 80, are geometrical, and represented by the numbers 1, 2, 4, 8. (Dublin Medical Press, March 15, 1843.)

The muscular system acquires additional development during the second dentition, and in boys the respiratory movements are proportionally active; but it appears that they are not so in girls, and we can thus explain the greater prevalence of chorea in the latter at sex the second dentition. The less liability to convulsions, on the access of febrile affections, may be connected with this increased muscularity. According to Quetelet, during childhood the lumbar power of boys is about one-third more than that of girls; towards the age of puberty one-half; and the strength of a developed man is double that of a woman. These data correspond so closely

with those of Bourgery and Andral, on the respiratory functions, that the coincidence cannot be casual.

M. Quetelet also shows that the ratio of growth of a child in height diminishes as its age increases, until the end of the first dentition. From the fourth or fifth year the increase of stature is almost the same in each year up to the sixteenth, when it diminishes gradually until the attainment of the 25th year, if a male, but earlier if a female. The weight follows the same rate of increase as the height.

According to Quetelet the viability between birth and complete puberty varies considerably at different ages. From birth to the completion of the first dentition the mortality is great; it then diminishes, and at the age of five years the *probability of life* attains its maximum. At 13 or 14 a favourable change is again observed; *viability* is then at its maximum, or, in other words, it is the period when man can most depend upon his actual existence. The periods of dentition (and also the analogous periods of moult in animals) are the times when the individual is most liable to disease, and, during the first dentition at least, to death. Mr. Farr's tables show this very strikingly. The eruption of each individual tooth, both in the first and second dentition, is invariably attended with considerable constitutional disturbance in delicate persons, so considerable, indeed, during even the eruption of the third molars, or *dentes sapientiæ*, as sometimes to create alarm. The great mortality in the first four months of infantile existence seems to be connected rather with congenital debility, many only breathing once or twice; or with extraneous circumstances, as early exposure to cold, &c. Antecedently to the first dentition infants are remarkably free from the attacks of prevalent and fatal epidemics.

The development of the reproductive organs has a secondary influence on the system at large, and modifies its diseases. In males (as just stated) the thoracic region is more fully developed, the respiration and circulation becoming more active. We can thus explain the liability of youths to diseases of the heart, and to hæmoptysis and other pulmonary affections. In both sexes the kidneys are acted upon by the ovaria and testes, and their functional activity is exalted or diminished. Hence a class of diseases is observed in youth analogous to those observed in spring and autumn. In females with the gouty diathesis this ovarian action upon the kidneys develops those irregular forms of hysteria which so often baffle the skill of the routinist. The irritation set up in various organs connected anatomically or physiologically with the ovaria, as, for example, the organs of voice, the mammæ, the pelvic viscera, the dorso-lumbar cord, and those parts of the encephalon associated with the sexual instinct, is so great as to simulate inflammation, and being founded on an arthritic diathesis it assumes the migratory character of arthritic disease. Thus the diagnosis and the treatment are rendered hopelessly difficult to the practitioner whose "practical" knowledge is not derived from the true source of practical skill, namely, a knowledge and just appreciation of physiological laws.

These views respecting the ovarian and renal origin of the anomalous forms of hysteria are developed at length in my published work; as they are based on the solid foundation of physiology applied to pathology, I venture to hope that in proportion as the solido-humoral pathology of the day is perfected, their correctness will be admitted. It is manifest that as the due evolution of the system in youth is necessary to healthy and useful manhood, and to a comfortable old age, the laws of development and their bearing on pathology are of the first importance.

To consider the remaining periods of life, namely, the *status* and decline, would be to review the whole domain of pathology. After the age of 30 or 35 the abdominal viscera play a more important part in health and disease, and often give the latter its distinguishing characteristics. It is worthy of remark, that just as precocious puberty is occasionally seen in infancy, so an attempt at rejuvenescence is sometimes made in old age, about the grand climacteric, or later. There is a fresh eruption of teeth, a complete set sometimes protruding, the reproductive organs reassume their activity, and the catamenia again appear, as well as other phenomena, observed only during the evolution of the system. Stoll, Good, and others, have recorded instances of this kind. That this is not mere chance is shown by the fact that a similar change is observed in the lower animals. Gallinaceous albinos—pheasants, for example,—according to Temminck, will assume all their former brilliancy of plumage, proving (since the latter is strictly sexual) that the reproductive organs are again active. The hen of the gallinaceous and other birds occasionally approximates in plumage to the cock, and ceases laying. It has been shown by Yarrell that this change is connected with a shrinking of the ovaries; but sometimes the male plumage falls off, and that of the female is re-developed, and then the bird lays eggs again. Nature herself here exhibits something like perpetual youth, and those who wish for this grand desideratum would do well to inquire closely into the circumstances which accompany the rejuvenescence described.

The periods of life have a much more important and practical bearing on the periodic development of hereditary disease. It is as certainly true that *all* the peculiarities of the parent are transmitted to the offspring, as

that the whole is equal to the sum of all its parts. Some or many of the peculiarities derived from the one parent may be negatived by peculiarities derived from the other, or even by extraneous circumstances, and not be manifest in the offspring; but they are not the less surely there, and may and do reappear in the third or fourth generation. In a previous paper I observed that as conception took place at a minor period (the catamenial), the minor periods, at least, of the offspring, would correspond to those of the mother, and that if twins dated their conception from the same hour, the periods of their life would be coincident. I gave, also, an illustration of this inference, in which twins (two boys) went through dentition, and were attacked by indisposition and infantile disease always at the same time. Stoll seems to have suspected some coincidences of this kind when he remarked —"Utile est observare necne semper eo tempore quo infans corripitur epilepsia matri fluant menses, necne." (Ratio Medendi, Aphor. 209.) What is true of the minor periods is true of the major, and examples in proof are numerous. Phthisis carries off the members of a family as they successively arrive at a certain stage of development; insanity appears at a known age in all the members of another; apoplexy and paralysis in those of a third, &c. Dr. Martin has recorded a striking example of this periodic development of hereditary disease. A person named Moses Le Compte, who was blind, had *thirty-seven* children and grandchildren that became blind like himself. The blindness is described as commencing in all about the age of fifteen or sixteen, and terminating in total deprivation of sight about twenty-two. (Quoted from the Baltimore Med. and Phys. Repos., in New Lond. Med. and Phys. Jour., vol. i., p. 394.) But, indeed, many similar instances might be quoted from numerous writers, which, if less striking, are equally instructive. Such may be found, for example, in Dr. Holland's interesting essay on the Hereditary Transmission of Diseases. (*Vide* Medical Notes and Reflections, p. 27, 1st edition.) The assiduous cultivation of this branch of vital proleptics promises the most valuable and practical results. Every family should possess its medical history, with exact dates, just as a nation its archives, and illustrated by a series of Daguerreotype portraits. The physician could then have data that might enable him to anticipate hereditary disease, and if not to prevent its development, at least, to predict its occurrence and modify its influence. But, indeed, if the laws regulating the hereditary transmission and periodic evolution of morbid states be once clearly ascertained *in all their relations*, much of the imperfection of medical science would be obviated, and its value proportionally exalted.

ABSTRACT OF A REPORT
ON THE
DEVELOPMENT OF THE OVUM OF MAN AND THE MAMMIFERA.

In the "British and Foreign Medical Review," for October last, is an elaborate memoir upon the ova of man and certain mammiferous animals, before and after fecundation, by Mr. Wharton Jones, who has there brought into juxta-position nearly all the more important results obtained by the researches of Baer, Bischoff, Henle, Valentin, Martin Barry, Coste, Wagner, and many other authorities, together with his own inquiries on this very intricate subject. In nearly every successive step in the process of development of the ovum, the opinions as well as the facts recorded by the foregoing observers are there compared, and a judgment is pronounced between conflicting views,—a circumstance which gives to certain parts of the essay in question somewhat of a controversial character. Divesting it, however, of all its polemical matter, and of most of the statements on which a difference of opinion exists between the higher authorities upon the subject, the following will be found to be a brief summary of the contents of Mr. Jones's Report of the leading facts which, according to him, have been established concerning the development of the ovum in certain mammifera, from the time at which it leaves the ovary, to its reception, and the early period of fœtal development, in the uterus.

The *Graafian follicles* in the ovary are lined by a membraniform layer of nucleated cells, one two-thousandth of an inch in diameter, termed, by Baer, the *membrana granulosa*. At its surface this membrane is thicker than elsewhere, presenting there a greater number of cells, which was (wrongly) named, by Baer, "*discus proligerus*." In its central part the ovum may be seen as an opake white speck, when the wall of the follicle is transparent.

Ovum and Yelk.—The granular mass in the centre of the ovum is almost uniformly recognised as analogous to the yelk of the bird's egg; and the broad transparent ring, or *zona pellucida*, which surrounds it, is allowed to be "the optical expression of the circumferential doubling of a thick transparent membrane which encloses the yelk." The yelk is composed of granules, the larger about one five-thousandth of an inch in diameter, and resembling fat or milk-globules, held together by a clear viscid substance, sometimes firmly, but at other times very

loosely. The more mature the yelk, the denser, opaker, and more coherent it is.

The *germinal vesicle* of mammifera was first discovered in the ovum of the rabbit, and described, though imperfectly, by Coste. Its size in such ova, according to Bischoff, is about one six-hundredth of an inch (in diameter). Under a compound microscope it is seen as a simple cell,—a transparent membranous wall with perfectly clear contents. At one side of it is a small, dark, round, spot, which Wagner found to be of general occurrence in ova throughout the animal series. "The *germinal spot* of the mammiferous ovum is a disc about one three-thousandth of an inch in diameter, composed of a finely-granulated substance, strongly refractive of light, and attached to one part of the inner surface of the wall of the germinal vesicle, which it causes to be more prominent there than elsewhere." Schwann doubted whether the ovum at large should be viewed as a primary cell, its nucleus the germinal vesicle, its nucleolus the germinal spot, and contents the yelk-granules; or whether the germinal vesicle and its spot stand the in relation to each other of cell and nucleus. Wharton Jones considers the latter view as the most consistent: the germinal spot has the size, form, and position of a cytoblast; and in insects, Wagner says, the spot is formed before the vesicle.

Fecundation, &c.—In many of the lower animals it is well known that actual contact of the seminal fluid with the ova takes place in fecundation; and it has been sufficiently shown that in mammifera, "*post coitum*, all the surfaces over which the ovum or ova must pass, in their course from the ovary to the uterus, become spread over with spermatozoa." The destruction of the passages, also, anywhere from the vagina to the free extremities of the Fallopian tubes, infallibly prevents impregnation. But does the fecundation of ova take place in the ovary, or not until these have passed into the Fallopian tubes? Bischoff and Barry believe that it occurs in the ovary, the contact of the semen with which they suppose to be a necessary condition for fecundation. Certainly the seminal fluid has been found to penetrate to the ovary in both the bitch and the rabbit. (The question seems to be not finally determined; Wharton Jones considers the latter occurrence as possibly abnormal, and no proof that fecundating contact *ordinarily* takes place in the ovary.)

It is supposed to be clear that at the moment of ejaculation the semen is received directly into the uterus, which organ has been found full of it, in animals, after coitus. It may reach the ovaries partly by diffusion through the mucus on the genital passages, partly by the movements of the spermatozoa. "The rate at which spermatozoa can move is, according to Henle, one inch in seven minutes and a half, a rate quite sufficient to account for the arrival of some, out of the great numbers poured into the uterus, within the time after coitus that they have been found in the ovaries." Another agency, which may promote the onward progress of the semen to the ovaries, is a succession of quick contractions of the uterus and Fallopian tubes in an inward direction, which has been observed in animals *post coitum*. But it is a remarkable fact that the motions of the *vibratile cilia* of the epithelium of the uterus and Fallopian tubes are in an outward direction, so that they would rather hinder the progress of the seminal fluid to the ovary, though they might facilitate the passage of the impregnated ovum into the uterus. "Bischoff in general found ciliary motion stopped in those parts of the tubes already traversed by the ova, but still brisk in the parts yet to be traversed. He likewise found spermatozoa only *before*, not *behind*, the ova, in the course of the latter along the Fallopian tube. Wagner found no ciliary motions in a pregnant animal, nor in one that had just littered."

Dr. Martin Barry alleges that an orifice presents itself in the external membrane of the ovum (the zona pellucida), and that in the interior of several ova he had actually observed spermatozoa, which he conjectures to have entered by that orifice. He further states that after such an occurrence as their entrance the orifice is no longer visible, and that it probably closes before the ovum leaves the ovary, he having in no instance distinguished it after this period. "Before the discharge of the ovum from the ovary (says Dr. Barry) the germinal spot, previously on the inner surface, passes to the centre of the germinal vesicle; the germinal vesicle, previously at the surface, returns to the centre of the yelk." The latter change he considers a most decided proof of fecundation. But Wharton Jones says that the above changes have not been affirmed to take place by any other observer; and he himself considers the only unequivocal evidence of fecundation to be the subdivision of the yelk in the Fallopian tube, similar to that which is considered to be the first evidence of fecundation in the spawn of the frog, &c.

Ovum before leaving the Ovary.—In the rabbit, Dr. Barry has ascertainted that from nine to ten hours elapse *post coitum*, before the Graafian follicles burst; in the bitch the time is variable, but later. Dr. Barry says that after fecundation, successive layers of cells make their appearance in the yelk surrounding the germinal vesicle, each pushing outwards the layer which had preceded it. Bischoff bears testimony to the yelk becoming, from some cause, thicker, darker, and finely granular. "From observations on animals it is known that the germinal vesicle disappears sometimes before, sometimes after, the escape of the ovum from the ovary; . . . in ova in which development

has actually commenced the germinal vesicle is no longer found."

Ovum in its passage to the Uterus.—The ovum (of the rabbit) having passed into the Fallopian tube, our author asserts that it acquires there a deposit around it of a thick gelatinous matter, similar to that seen around the ovum of the frog in the oviduct,—an asseveration in which he is now supported by both Bischoff and Barry. This, however, appears to be not universal among mammifera; according to Bischoff, the ovum of the dog receives no such envelope.

Mr. Jones detected this investment on the ovum of the rabbit in the Fallopian tube, near the horn of the uterus, three days *post coitum*; but Barry appears to have found it present when the ovum is only an inch from the ovary. The investment increases in thickness as the ova proceed in the tubes:—"It has a stratified texture, and deserves in every respect the designation of *white of egg*." It seems to be enclosed in a newly-formed membrane, which Wharton Jones considers to be the true *basis of the future chorion*.* In their progress through the Fallopian tubes, the ova (of the rabbit) become double, or more than double, the size of ovarian ova; the increase is chiefly due to the gelatinous addition; the vitellary membrane (zona pellucida) becomes only a little thicker.

The changes in the yelk during this period are deserving of close attention. Prevost and Dumas first remarked the division and subdivision of the yelk in the ovum of the frog after fecundation; and similar phenomena take place in the ova of higher animals. The germinal vesicle, as we have seen, has disappeared; it is, however, replaced by two other vesicles or cells, each having its nucleus. Each of these twin cells becomes resolved into two other cells, and so on perpetually, the cells increasing in geometrical progression, "until the germ consists of a mulberry-like object, the cells of which are so numerous as not to admit of being counted." (The process is complicated, and difficult to describe briefly; we will, therefore, refer readers to Mr. Jones's Report itself, sect. 103; Dr. Barry's several series in the Philos. Trans. for 1838-39-40; or Willis's Transl. of Wagner's Physiology, part i., pp. 152-3, contenting ourselves with indicating the fact.) But it may be mentioned that in the ova of several entozoa already examined, no division of the yelk occurs at all; and even in one of the amphibia (*alytes obstetricans*) the division is only partial.

The ova, on entering the Fallopian tubes, are surrounded by cells of the disc and *membrana granulosa* of the ovary (see ante, *Graaf. foll.*); but these soon begin to be absorbed, and in the first or upper half of the tube they have wholly disappeared; that is, where the ovum is invested in the tube with a gelatinous layer; for in that of the bitch some remains of these granules remain attached when the ovum enters the uterus. Ova pass more quickly along the former than along the latter half of the Fallopian tube. They are carried along partly by the vibratile cilia of the epithelium, the motions of which have been before alluded to; but partly also (and Bischoff supposes principally) by contractions of the tube in a direction opposite to that by which the conveyance of the semen towards the ovaries is said to be effected. Such contractions have been witnessed. The ova in the rabbit reach the uterus about the end of the third or beginning of the fourth day after coitus; in the bitch they are not found there till about the eighth day. The time consumed in the passage of the human ovum from the ovary to the uterus has not been ascertained; but it may be naturally supposed that in this as, in other respects, the ovum of our species will present more analogy with that of the dog than the rabbit, as an animal much higher in the scale.

The Ovum in the Uterus, the Amnion, and the Blastodermic Vesicle.

In the interim between the epoch at which the ovum is at the end of the Fallopian tube, and a subsequent epoch in its development in the uterus, there occurs what we may join Mr. Jones in designating "an important hiatus" in the observations of Bischoff, during which the ovum has increased in diameter from one-fifth to half of a Paris line. Dr. Barry supplies an account of what takes place during this period. A layer of vesicles of a description similar to those constituting the mulberry-like structure (the agglomeration of the last descendants of the germinal vesicle, as is probable), now appears lining the vitellary membrane or zone; where this layer and the mulberry-like object are in contact, a new membrane is generated, which Dr. Barry considers as the future *amnion*. The interior of the mulberry-like structure is now occupied by a large vesicle containing a fluid and dark granules, and in the centre of which is a spherical body filled with a colourless and pellucid fluid. This hollow spherical body seems to be the *true germ*. The vesicle containing it disappears, and in its place is seen an

* If the chorion be an essential part in the development of the ovum, and be necessarily connected with the gelatinous matter received by it in the Fallopian tube, an ovarian conception cannot take place in the rabbit. But if, as Bischoff asserts, no gelatinous investment be acquired by the ovum in the bitch, *nor*, in that case, in all probability, in the higher brutes, and *human subject*, the chorion in them being formed from the vitellary membrane (zona pellucida), ovarian conception may, in them, occur.—*See Brit. and For. Rev.*, p. 531, § 93.

elliptical depression (*area pellucida* of authors on the development of the bird). "Thus, according to Dr. Barry, the rudimental embryo is the nucleus of a cell. It passes from a spherical into a linear form, in some stage of which it appears to correspond with the 'primitive trace' of authors on the ovum of the bird." The ova, as they proceed farther down the uterus, grow rapidly. The zona and the layer of cells formed at its inside become more distended; the outer albuminous investment is thereby rendered thinner; and, finally, it and the zona coalesce with each other, forming one common outer investment to the ovum. The inner vesicle described, as above seen by Barry, to contain in its centre the spherical body or germ, Bischoff calls the *vesicula blastodermica*. To its formation "all the processes hitherto described tended, and it is this vesicle which is the first product of development on which the materials of the ovum were expended."

Nisus of the Embryo.—On the fifth day *post coitum* in the blastodermic vesicle is observed an opake spot,—the *cumulus germinativus* of Burdach and Baer,—*tache embryonnaire* of Coste,—*area germinativa*, or *fruchthof* of Bischoff, in which it is quite evident that the embryo is developed. At this stage of development we have to notice an important difference in opinion between two of the chief authorities on the subject. According to Barry there is not, in the mammiferous ovum, any splitting of a germinal membrane into serous, vascular, or mucous laminæ, as is said to take place in ova of lower animals;* but from the region occupied by the germ there arises a hollow process which enlarges till it lines the inner surface of the future amnion, and represents the future *vascular lamina* of the umbilical vesicle. Bischoff, on the other hand, says that very soon the blastodermic vesicle is found, at the area germinativa, to consist of a *double layer*, a very thin layer of nucleated cells having begun to separate from it at its inner surface,—thereby a remarkable analogy being exhibited to what occurs in the bird's egg, where the germinal membrane, soon after the beginning of incubation, thins off into two layers, the upper called *serous* or *animal*, and the lower the *mucous* or *vegetative*.

The Chorion.—In ova of the sixth day small inequalities become visible on the surface of the ovum, which are soon recognisable as the villous processes of the *chorion*, a membrane (partially if not entirely) formed from the external membrane of the ovum, from which these processes are seen to arise. The time of their first appearance would seem, however, to be very variable in different cases.

Layers of the Vesicle.—In the next stage, in ova from two and a half to three lines in diameter, Bischoff remarked that the vegetative layer had extended further on the inner surface of the animal layer of the blastodermic vesicle. The two layers present this difference, that the cells of the animal (serous) layer are more completely fused together and more filled with fine molecules, so as to form the denser membrane of the two; while the cells of the vegetative (mucous) layer appear still distinctly separate, and very delicate and pale. In a somewhat more advanced stage the vegetative layer had developed so much further as to extend beyond the largest diameter of the blastodermic vesicle.

Connection of the Ovum with the Uterus.—At the last-named period, when the ova are from three and a half to four lines in diameter, and the villi scattered in irregular groups over all their outer surface, no intimate union has taken place between their external membrane and the uterus, though the two surfaces had been seen closely applied to each other. But in the ensuing period, from about the beginning of the ninth day, the ovum has contracted an intimate connection with the uterine mucous membrane. The latter is raised into minute folds and villi, covered by epithelium, which adheres closely to the external membrane of the ovum; and the villi of the latter are thrust in between the sheaths of the villi of the uterine coat, so that the ovum can scarcely be removed from the uterus uninjured.

Changes in the Blastodermic Vesicle.—In ova of the rabbit, half an inch in diameter, the blastodermic vesicle has been found to lie free within the external membrane. The area germinativa is on the side opposite the insertion of the *mesometrium*, and either still opake or beginning to clear in its centre (so as to form the central *area pellucida*, and surrounding *area opaca*, as occurs in the bird's egg). In a few hours the vesicle no longer lies free, but begins to be united by its animal layer to the external membrane, and thus indirectly with the uterus. "This union commences first at the side opposite the insertion of the mesometrium, and from this gradually extends to the mesenteric side." The blastodermic vesicle now undergoes changes of form in quick succession "It is no longer round, but first oval and then pear-shaped, its long axis always falling on the transverse axis of the somewhat oval ovum. In all these forms it is composed of an opake periphery, the *area opaca*, which encloses a clear space,—*area pellucida*. These differences are owing to the different accumulation of cell-materials, especially in the animal layer; the cells appear to pass, as it were, from the centre

* For an account of this process, as occurring in the egg of the bird, we refer readers to Wagner's Physiology, translation by Dr. Willis, part i.

towards the periphery, leaving the centre transparent. Sometimes while the area germinativa is still oval, but generally not until it is pear-shaped, there is seen in the long axis of the area pellucida *a clear streak*; with this commences the first trace of the *proper embryo*. This usually takes place on the eighth or ninth day post coitum."

(The remainder of the Report, comprising an account of the subsequent development of the amnion, chorion, umbilical vesicle, &c., we purpose to notice speedily in conjunction with a subject allied thereto.)

STRICTURES

ON

A WORK BY PROFESSOR BISCHOFF,

OF HEIDELBERG, ENTITLED

"*ENTWICKELUNGSGESCHICHTE DES KANINCHEN-EIES.*"

(HISTORY OF THE DEVELOPMENT OF THE OVUM OF THE RABBIT.)

1842.

By MARTIN BARRY, M.D., F.R.SS.L. & E.

THE following is the substance of notes, written nine months since, when I was reading the work of Professor Bischoff. Should the Editor of THE LANCET consider them suitable for insertion in his Journal, I shall feel obliged by his allowing them to be published there.

MARTIN BARRY.

19th, tenth month (October), 1843.

Bischoff, Plates I. to VIII., inclusive.—There is certainly some satisfaction in finding that observations recorded by myself two, three, and many of them four years since, in the "Philosophical Transactions,"* have led to a repetition of the same. But it is not very satisfactory to observe the mutilated form in which my figures are made to re-appear. This last remark is intended to apply more particularly to figures representing the divisions which the essential portion of the ovum undergoes in the Fallopian tube.

Professor Bischoff seems to have adopted, in part, my mode of *obtaining* ova (Second series,' l. c., p. 365); had he fully done so, he would not have found it needful to raise the ovum out of the oviduct with a needle, a sort of manipulation that it will not bear successfully. And had he used the ring of putty that I recommended, the ova might have been preserved for days, weeks, and even months, instead of requiring to be kept from drying up by the addition of foreign substances, which not only diverts the attention of the observer, but completely changes the appearance of the ova, and admits of their being examined but for a very short time. The ovum, fig. 16, it appears had lain in water! Nothing whatever should be added to ova from the oviduct, nor is it advisable to make any addition to those from the uterus that have not attained a considerable size.

From these remarks it may, perhaps, be possible to account for some of the differences between Bischoff's observations and my own.

Nature is not represented in the figures Bischoff has given of the so-called "yelk." This substance, in the mammiferous ovum, as I long since showed, corresponds to little more than the "*discus vitellinus*" in the ovum of the bird, and like it, consists of cells, which, indeed, are represented in two of Bischoff's figures (figs. 8 and 9).

Formation of the Ovum.—No one, on reading page 19 of Bischoff's book, would suppose that the formation of the ovum had ever been described; still less would it be imagined that the writer was confirming observations recorded four years before. But I ask the reader to compare, *in detail*, Bischoff's figs. 10 to 13, with about twenty of my own in Plate V., "Phil. Trans.," 1838, and, more especially, Bischoff's fig. 10 with my figs. 2, 3, and 19, in that same plate, a stage being there represented which he actually says (p. 19) I "*overlooked*." [Stages still earlier than this will be found represented in a paper of mine "On the Corpuscles of the Blood," (Phil. Trans., 1841, Plate XXV., figs. 164—173, and described § 188—195.) It is there stated that the vesicle called by me the ovisac, with the whole of its contents, arises out of a body having precisely the same appearance as a mammiferous young blood-disc; this blood-disc, as I have shown, being originally elliptical, and not round, the outer part dividing into minuter discs, which, forming cells, coalesce to produce the membrane of the ovisac. The germinal vesicle has previously been formed out of the central portion of the disc.]

Misrepresentations.

Bischoff, p. 14.—What I said regarding the changes in the germinal spot, was obviously meant to apply to its condition, as preparing for fecundation, and I headed the paragraphs, "*Preparatory Changes in the Germinal Vesicle and Germinal Spot*"; yet Bischoff makes it appear as if my description had been intended to apply to the state of the germinal spot *as usually found*—a mis-statement which certainly was not accidental.

Bischoff, p. 4.—I never attempted to show that my "*retinacula*" were the analogue of the chalazæ, but, on the contrary, showed

* Researches in Embryology, first series, Phil. Trans., 1838; second series, Phil. Trans., 1839; third series, Phil. Trans., 1840.

that they could *not* be so regarded. (See my first series on Embryology, l. c., § 92.)

Bischoff, p. 49.—My observations on the time taken by the ovum of the rabbit to pass through the Fallopian tube are not correctly stated. A table (my third series, l. c., p. 565) shows that 230 ova having been found by me in the tube, some of them had been met with there as early as the tenth hour, and others as late as the seventy-second hour, *post coitum*. In the same page (p. 565 of my third series) will be found, also, the following words:—"It will be seen from these tables that ova have been found in the Fallopian tube as late as seventy-two hours, and in the uterus as early as fifty-two hours, *post coitum*."

Bischoff, p. 86.—I never added any chemical re-agent to ova of the size of Bischoff's ovum, figs. 29 and 30. He makes it appear as if the addition of a re-agent had been my constant practice.

Bischoff, p. 10.—Professor Bischoff has no authority whatever for stating that I appear to have used, for the most part, a magnifying power of 100 diameters. The objects were, for the most part, *delineated* as magnified 100 diameters; but it surely does not follow that no higher magnifying power was used in the examination. The powers employed varied from less than 100 to 800.

Bischoff, p. 89, states that Barry has not attempted to explain the appearance of the ovum in his fig. 119 (my second series), which, therefore, and because he (Bischoff) saw such a condition of the ovum only *once*, he thinks was an aborted ovum. The reader will find whether I failed to explain this appearance, on referring to my "Second Series of Researches, &c.," l. c. § 201, which paragraph is entitled "*Nineteenth Stage of Development—Hollow Network in the Ovum.*" This state of the ovum, then, it appears, was seen by Bischoff "only once!" (See my figs. 120, 121, 152, for later stages.)

Bischoff, p. 3, says that the ovulum is "covered *on all sides* by the cells of the membrana granulosa," and that those cells, being more densely aggregated around the ovulum, form an opaque ring. Yet this, though covering the ovulum "*on all sides*," he calls a disc. Had Bischoff obtained a suite of stages, he would have seen it *sharply circumscribed*, and perfectly *spherical* in form.

Bischoff, p. 30.—"In this state of things, observation needs to take but one step more, *i. e.*, only to see the spermatic threads [spermatozoa] penetrate the ovum, or to find them there. A probability would thus become a certainty." P. 32:—"But I have never been able to convince myself that one of these spermatic threads [spermatozoa] was in the interior of the ovum." Professor Bischoff may now be informed that this has at last been done (see "Proceedings of the Royal Society," Dec. 8, 1842), spermatozoa *within* the "zona pellucida," *i. e.*, *certainly in the interior* of the ovum, having been found by myself, and shown to, and acknowledged by, others, among whom was Professor Owen, who, in a note I have received from him, states that he "can confidently attest the reality of the spermatozoa." [Since the above was written, I have confirmed my first observation by a second.]

Bischoff, p. 38, acknowledges having seen the germinal spot to appear not quite round, but like a flattened vesicle, and presenting a "pellucid ring." And although, in 1839, he thought himself enabled to pronounce the disappearance of the germinal vesicle in mammals, also, "as a decided fact," he now, in 1842, after seeing my papers, acknowledges (p. 39) that, "very probably, the nucleus of the germinal vesicle [*i. e.*, the germinal spot] is the essential part which first of all experiences the influence of the coïtus, namely, a mixing with the seminal fluid." (I had shown the centre of the altered germinal spot to be the *point of fecundation*.)

Bischoff, p. 56.—"I have certainly several times observed in the yelk a part more pellucid than the rest, the presence of which, undoubtedly, is of great importance." This, probably, was not the germinal vesicle, but an early state of the twin successors of it. (See my figs. 187, 191, 193, in Plate XXIV., "Phil. Trans.," 1840.) I have at this time several ova in a state nearly resembling these, which have been preserved for many weeks by means of the putty ring, the entrance of the air having been further prevented by a cement consisting of gold-size (*lein-oel firniss*) and a little lamp-black.

Bischoff, fig. 1.—What Bischoff describes as cells of the membrana granulosa, appear to have been cells of the central part of the retinacula. (The retinacula will be found exceedingly distinct in the ferret, *mustela furo*, which animal I selected when showing these structures to Professor Owen.)

Bischoff, fig. 2.—"Fleckiges Ansehn." The same appearance will be found represented by myself in the "Phil. Trans." 1840, Plate XXIV., figs. 188, 189; and the cause producing it is described in p. 541 of that volume (§ 357).

Bischoff, fig. 6.—The five so-called small yelk-balls, appear to have been *cells* that had not undergone that liquefaction which removed the other cells in the layer of which they had formed a part.

Bischoff, fig. 16, mistakes blood-corpuscles for cells of the so-called "discus," which, after becoming club-shaped, he supposes to have returned to their previous form. (The ovum had lain in water! P. 64.)

Bischoff, figs. 19, 20, mistakes the incipient chorion for a deposit of albumen.

Bischoff, p. 61, says nothing on the subject of a fact to which I directed particular

attention, viz., that on pressure being applied the chorion *becomes elliptical*. Is this to be expected of mere albumen? (Bischoff had previously said—Wagner's "Physiologie," p. 96—"Most certainly the ovum receives in the oviduct no new covering; it receives no layer of albumen and no 'schalenhaut,' like the ovum of the ovipara.")

Bischoff, fig. 17, mistakes solitary cells, not yet liquefied, for "nachkommen des keimfleckes."

Bischoff, p. 87, after altogether denying the existence of cells hitherto, now suddenly admits them.

Bischoff, fig. 42, g.—"Star-shaped and nucleated cells often uniting with one another." "The situation and relation of these cells between the cell-layers forming the animal and vegetative laminæ, make it possible that they belong to that which becomes what certainly manifests itself as the vascular lamina, and that they indicate the commencement of the vessels of the area vasculosa." Compare this figure of Bischoff (fig. 42, g.) and the description now quoted, with fig. 132 in my second series (l. c. 1839), and with the description I there gave of it, viz.,—"Fig. 132. A portion of the network of which the subsequently *vascular lamina* of the umbilical vesicle consists" (l. c. p. 379). My figs. 120, 121, and 150, are mentioned in that same Paper as representing the succeeding stages, fig. 150 being thus described:—"Vesicles of the outer, and subsequently vascular, lamina of the umbilical vesicle." With these passages before his eyes, and at the same time comparing my fig. 120 with his fig. 41 g., how could Professor Bischoff coolly say, that since the cells in his fig. 41 g. presented precisely such an appearance as that which Schwann had given of the first development of the vessels in the bird's egg, the thought had occurred to *him* ("so gerieth *ich* auf den gedanken") whether, at this early period, there might not exist a cell-layer in which the future vascular lamina should have its origin? (See his pp. 96, 97.)

Bischoff, p. 95, boasts of being able to demonstrate two laminæ of the "germinal membrane" in the rabbit's ovum, measuring from a line and three quarters to two lines, and forgets (?) that this had previously been shown in a rabbit's ovum of less than half a line, and that (second series, l. c., § 206, figs. 120, 121 A.) the inner layer, or vascular lamina, as I called it, had been stated to present a lamina internal to it. In 1839 I remarked (second series, l. c., § 167),—"There is no fixed relation between the size of the entire ovum and the degree of development of its most essential part;" in proof of which I referred to my fig. 124; and the variable period at which villi begin to appear on the chorion afforded another instance. This irregularity should be borne in mind. It probably explains how it is that the same appearance should present itself in an ovum of three lines (Bischoff's fig. 42 g.) and in one of two-fifths of a line (my fig. 120), being incipient also in an ovum of one-fourth of a line (my figs. 119, 132). It should be recollected that Bischoff did not always find it in his more advanced ova (p. 97); and that, as above stated, I have met with ova of two lines apparently not more advanced in reference to the network than the ovum in my fig. 119, which measured only one-fourth of a line.

Bischoff, figs. 21 to 30.—The germ dividing and subdividing by means of cells, is coarsely represented as the "zerlegung" of what Bischoff supposes to be the "yelk." The original figures will be found in the "Phil. Trans." for 1839 and 1840; to which, and more especially to the latter volume, the reader is referred for an explanation of the process by which the germ thus reproduces itself, and multiplies its cells—a view being there given essentially differing from the views of others regarding "cells," which latter certainly could not have explained the process. It is deserving of notice that Bischoff, although he takes some pains to show the inapplicability of the theory of "cells" to the divisions of what he calls the "yelk," *avoids mentioning my peculiar views on "cells."*

Bischoff, figs. 31, 32, 35, 36, 37.—Having failed to find the large cell in the mulberry-like body, Bischoff also fails to discern its nucleus, and mistakes the cells lying around this nucleus, and the cells into which the outer portion of this nucleus has been resolved, for a heap of yelk-globules, remaining over, in order to future use.

Bischoff, fig. 39.—The "fruchthof," represented in an ovum of three-fourths of a line. I am not surprised that Bischoff could describe and figure this region merely as a spot,—the *tache embryonnaire* of Coste,—consisting of nucleated cells in different degrees of aggregation. At this I am not surprised, for Bischoff acknowledges having seen no ova between one-fifth and one-half of a line, and this he calls "*a small hiatus*" in his observations. It is added, that the "fruchthof" (*tache embryonnaire*) in previously-mentioned ova was not recognised, "*but yet, perhaps, was present, and only very difficult to find.*" At p. 92 it is remarked, "I will not deny that it (the "fruchthof") is to be found in ova of half a line; indeed, it may be traceable to the remains of the yelk-globules, which were not all expended in the formation of the germinal membrane." Bischoff, then, is not prepared to deny that the "fruchthof," or *tache embryonnaire*, may exist in ova of half a line." At p. 91 he confesses having seen no ova between one-fifth and one-half a line. This, as already stated, he calls "a small [?] hiatus" in his observations, which he regrets, be-

cause "Barry's marvellous figures, 121—126, relate to ova of two-fifths, one-fourth, and one-third of a line:" *i. e.*, they relate to just that period concerning which Bischoff confesses he failed to make any observations. On the states represented in "Barry's marvellous figures" (figs. 121, &c.) it is added, "Of importance they cannot be, as, subsequently, nothing is found of them." Yet, after examining larger ova, he admits that "*perhaps there is something present of an explanatory character*" in smaller ones. Yes, Professor Bischoff, had that "small [?] hiatus" been filled up, it would have shown the *mode of origin* of the spot, "fruchthof," or *tache embryonnaire*, and the supposed "original foundation of the body of the embryo" (Bischoff's fig. 48) to be merely a *stage* in the growth of what had come into existence some time before. Bischoff would have seen the "primitive trace" of authors to be an accumulation of the cells, or foundations of cells, continually arising in what had been a pellucid space, and marking the locality of the nucleus of the embryonic cell,—the central pellucid groove or channel ("primitivrinne") in Bischoff's "original foundation of the body of the embryo," being no other than the elongated pellucid centre of that nucleus.

Bischoff adopts the views of others, that the germinal membrane "thickens" at a certain point, and that in this thickened portion the embryo has its origin. What is the cause of this supposed thickening of a membrane? It is no other than that continual origin of new cells in the pellucid centre of what had been the nucleus of the embryonic cell, and the continual reproduction of the cells so arising. As the embryonic cell exists in the mulberry, while the mulberry is in the centre of the ovum, its nucleus is no part of any membrane. Had investigators begun with smaller ova, *i. e.*, at an earlier period, and had they left no "*small* [?] *hiatus*" in their observations, they would have found that it is not a previously existing membrane which gives origin to the embryo, but a previously existing mulberry-like body, which, by certain changes, assumes the form of a membrane, in a certain part of which the development of the already existing embryo proceeds, in the way I have described,—from the nucleus of a cell.

It might appear remarkable that Bischoff should not attach much importance to the "small [?] hiatus" just referred to, since in the same page (91) he had only just said that the changes follow one another with such rapidity that "an accurate understanding is scarcely possible if all the intermediate stages have not been observed." But notwithstanding this most just remark, "a small [?] hiatus" seems to be no uncommon thing in the observations of Professor Bischoff. Thus it appears (p. 54) that his "conclusions" respecting figs. 185, 188, 189, 190, 193, 194, 195, 199, 200, &c., in the "third series" of my "Researches in Embryology" (Phil. Trans., 1840), were drawn from the examination of the ova of only *three* rabbits (pp. 53, 54), the ova of one of these having lain *in water*, and those of another having been taken out of the oviduct "*nine hours* (p. 57) after the rabbit had been killed." Again, on the subject of what is stated in my third series concerning changes following fecundation, before the ovum leaves the ovary, he ventures to pronounce an opinion from the examination of *one* dog and *one* rabbit (p. 37).*

Professor Bischoff's book affords a striking instance of the truth of a remark made by myself long since, viz., that without a knowledge of the fact that the germinal vesicle returns to the centre of the ovum, it is not possible to learn the mode, the period, or the place of origin of the new being, or, indeed, to understand the ovum in any of its future phases.

In 1839 a note was added to my Second Series while passing through the press, concerning Bischoff's contributions to the plates accompanying R. Wagner's "Physiology," which had subsequently come into my hands. My belief was there stated that, while Bischoff's figures showed him to be in advance of others in his acquaintance with the mammiferous ovum, they also showed that he had not obtained a suite of early stages.—(Second series, l. c., p. 354.) From the *animus* everywhere recognisable in Bischoff's book now under consideration, it is evident that the opinion expressed in that note has never been forgiven. What I then said, however, I am compelled to repeat, and to extend to Bischoff's present communication on the ovum of the rabbit.

There is a word of counsel, too, that I am under the necessity of offering to Professor Bischoff. When he professes to communicate what has been done by others whose researches have preceded his, and yet thinks proper, for some reason, here and there to pass very lightly over, or altogether to omit, certain portions of the history, he should take care that the omitted portions are not, in other parts of his book, inadvertently permitted to creep out.

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* I sacrificed nearly *a score* of rabbits for the purpose of determining the condition in which the ova leave the ovary, and was thus enabled to show that the period of their discharge from that organ is very frequently *nine or ten hours post coitum*, an observation which Bischoff states to have been confirmed by his own.—(See my second series, l. c., pp. 310, 311.)

PREVAILING ERUPTIVE DISEASES IN CHILDREN.
THE DISTRESSING CONDITION OF THE POOR.

To the Editor of THE LANCET.

SIR,—I regret to be in a condition to confirm the correctness of your correspondent, Dr. Epps, whose communication on "The Prevalence of Eruptions" was given in THE LANCET of Nov. 4th, page 152; for, although seldom called upon to perform vaccination, the prevalence of eruptive diseases in children, during "the whole past period of the present year," has constantly forced itself upon my notice and attention, whilst unusually severe diarrhœa, obstinate (and, in two instances, fatal) dysentery I have seen the prevailing (epidemic) diseases of adults. The acute exanthemata, scarlatina, and measles, have been more frequent in my practice than at any period during my previous eight years experience in this neighbourhood.

In several cases of rubeola the congestion and subsequent inflammation of the lungs have been of an unusually severe character. In a few cases of scarlatina maligna that have come, incidentally, and otherwise, under my notice, the parotid, submaxillary, sublingual, and entire chain of cervical glands, have been inflamed, and excessively increased in size.

Eight children, of various ages, have been treated for acute and chronic pemphigus. In two of these cases the bullæ were of unusual size, and discharged, in rapid succession, a most irritating fluid, which excoriated the surrounding parts. Four cases of purpura have been under treatment. All my young patients had been *well* and *sufficiently* nourished.

I consider, Sir, that children are the truest (barometrical?) indices of the sanitary condition of a crowded neighbourhood. The acute exanthemata—(more especially)—the stock diseases *of all such localities* in the present shamefully neglected condition of the earth's surface and sub-surface, find in them the earliest, the most interesting, and the most suffering victims.

When children of a larger growth shall be fully awakened to the conviction that in many localities disease is "manufactured by wholesale," to be treated by "retail;" when individuals or bodies of persons who, blessed with the means to do, and the leisure to execute, good will, instead of crusading for the evangelisation of transmarine heathen, attempt (and by the *only* sensible and immediately practical means) to Christianise *our own*; when they will take as much care of the breed of the human as they do of the higher order of domestic animals; when men, women, and children who, in thousands of instances, are worse lodged, worse fed, and worse treated than the horses of the rich in their stables, or the beasts of the Zoological Gardens in their dens, are, for the first time, anxiously and efficiently cared for,—if the spurious, the rotten philanthropy above hinted at—instead of pathetically lamenting the *moral* depravity of the millions whom they have never seen—will set itself seriously to work to improve the *temporal* constitution of our own unhappy and too frequently degraded and brutalised poor; when it shall study poor human nature *in detail* instead of *in the mass*; go into the so-called houses and neighbourhoods in which so many of our fellow-creatures vegetate, like fungi, not live like men—it will be the agent in producing enormous, incalculably beneficial results—results that would be felt in the minutest and most intricate ramifications of the great human family.

The annihilation of easily recognised sources of discomfort and disease, with their invariable concomitants, would by degrees produce great moral and physical results. The patriot, the moralist, and the divine would ultimately discover and appreciate the invaluable truth, that however sincere and anxious the ministers of religion may be to elucidate, explain, and enforce the great truths of Christianity—the promises (to the poor, more especially,) of a happier, indefinite, non-tangible FUTURE—would have a thousand-fold more influence on their lives and conduct than under the existing order of things; because the finger of sophistry, scorn, and derision could not then point with the self-satisfaction and malignity of a fiend to the tangible, terrible realities of THE PRESENT.

I have the honour to be, Sir, your obedient servant,

GEO. A. WALKER.

Drury-lane, Nov. 1843.

THE PRIZES AT APOTHECARIES HALL.

To the Editor.—Sir: At the late distribution of the prizes in botany and materia medica, annually given by the Society of Apothecaries (LANCET, page 229), a somewhat invidious departure from the usual custom occurred. The two prizes in materia medica were awarded before the three in botany, although the latter have now been given for many years, while the former are of very recent institution. It is also quite certain that the number of competitors, and the severity of the examinations, was very decidedly in favour of botany. I have been assured by the examiner, N. B. Ward, Esq., that this mistake will not occur in future distributions, but I owe it to myself and the others who obtained the botanical prizes, to record a disclaimer of any act which would degrade one of the most interesting and extensive of the sciences to the level of a mere complicated stumbling-block for students, as is materia medica. I am, Sir, your obedient servant,

CHARLES PRENTICE.

Nov. 15, 1843.

THE LANCET.

London, Saturday, November 25, 1843.

Our frequent endeavours to impress on the medical community the necessity of cultivating the external senses, with reference to the practice of medicine, sufficiently exempt us from the suspicion of undervaluing *auscultation*,—an art which presents a most striking instance of the application of the senses to the detection of disease. So far, indeed, are we from depreciating this important means of diagnosis, that in the following brief remarks, our object will be to enforce its claims to consideration, and to point out some circumstances which tend to diminish its accuracy and utility, and thence to shake the confidence to which diagnosis by auscultation is really entitled from practical men.

Nothing injures a good cause more effectually than exaggeration of the merits in it which we advocate. Auscultation, however, has suffered severely by this sort of advocacy. It has been extolled as a means of diagnosis which should nearly supersede all others in the cases to which it is applicable; the subdivision of sounds has been carried to an absurd extreme of minuteness; an exact and invariable signification has been attached to each, and auscultation has repeatedly been held out as an absolute method of detecting disease, independently of the concurrent testimony of symptoms and circumstances. But every practical man knows all this to be mere delusion. Hence some run into the opposite extreme, which is equally erroneous, toss aside the stethoscope, and abjure their ears as an aid in practice. Yet an impartial appeal to experience assures us that the signs afforded by auscultation, although they render diagnosis certain when duly supported by symptoms, should in no instance be relied upon in opposition to the general signs of disease, nor regarded as conclusive when not borne out by symptoms, even although not being directly at variance with them. In short, auscultation is invaluable in conjunction with symptoms, fallible when disunited from them, and worthless when opposed to them.

With respect to the sounds elicited by auscultation, students cannot be too strongly advised to avoid frivolous minuteness in discrimination, and to exclude the operations of Fancy, a treacherous ally, who is ever ready to present herself in all inquiries which demand a refined exercise of the senses. We often hear auscultators debating upon doubtful sounds. One "thinks" he can detect a sound; another declares himself unable to do so; a third, with sharper ears than either, not only hears a sound, but pronounces what particular sound it is. These gentlemen give themselves a deal of useless trouble. Such murmurs are not worth a straw. Every sound, yielded by auscultation, that is worth one straw of confidence, is, to a well-organised and well-trained ear, as distinct, although not so loud, as the stroke of St. Paul's bell. We say to a *well-organised* and *well-trained* ear; a person who has any marked defect in the organ of hearing cannot, of course, hope to become an efficient auscultator; but it is a great mistake to suppose that any peculiar fineness of ear is needful to the attainment of skill in auscultation. Every person who enjoys the sense of hearing in its ordinary degree of perfection, is capable of that attainment, and, in fact, we have sometimes observed that persons with a very fine ear for music were more apt to have the sense cheated by fancy than those whose auditory apparatus was of a coarser construction. But every ear, in order to be made available for auscultation, must be sedulously cultivated with reference to that particular exercise of audition. There are fewer really good auscultators than there would be, because, on the one hand, so many practitioners decline the trouble of educating their ears; and, on the other, some who do not shrink from that labour, are apt to become enthusiastic, to allow their fancy to gain the ascendant, and to "hear" sounds which are inaudible. It is

useless to mince the matter. Many men who consider themselves, and who are considered by others to be first-rate auscultators, are continually falling into ludicrous errors in diagnosis, both from being misled by their imagination, and induced to place too implicit a faith in the certainty of mere auscultation; while, perhaps, some plodding friend, who has solved the case easily enough by its ordinary symptoms, joins in the laugh against the auscultator, and sneers at a valuable art which he has not had the industry to acquire. This is exceedingly lamentable, but a still more unsatisfactory case, and one, unfortunately, still more common, is that of a practitioner who, not presuming to oppose the high authorities by which auscultation is supported,—unwilling to take the trouble of learning to exercise the art, and, at the same time, ashamed to appear ignorant of its use,—wields his stethoscope on the simple principle of imitation; applies his ear, or his instrument, to the chest, all the while looking thoroughly wise, yet remaining with a mind uninformed, and an ear unimpressed by a single idea derived from his hypocritical performance.

Another reason why the application of the sense of hearing to the detection of disease is less extensively useful than it ought to be, is to be found in the comparative neglect of the practice of *percussion*. This does not afford so great a variety of signs as auscultation, but the signs that it *does* afford are infinitely more certain. How often would the practitioner be misled by auscultation with respect to the existence or non-existence of hypertrophy of the heart, if percussion did not remove the ambiguity! How often the extreme feebleness, or the entire absence, of the vesicular murmur would induce a belief that the substance of a lung was condensed, did not the clear sound elicited by percussion demonstrate the negative sign derived from auscultation to be an anomaly. Experience so fully convinces us of the importance of percussion that, highly as both modes of exploration must be valued, were we compelled to relinquish either the one or the other, we should not hesitate to decide in favour of retaining percussion.

In order, then, to insure to the practice of medicine the highest benefit which the exercise of hearing can confer upon it, let the cultivators of auscultation be convinced that sounds which cannot be *distinctly* heard, are not worth hearing, but that to hear aright those which are clearly audible and definable, the ear must be diligently educated; let the class of imitators give up the apish use of auscultation and adopt the real use; let those who, without trial, have formed an opinion unfavourable to auscultation, learn to bring its pretensions to the test of their own senses, and their opinion will speedily be altered: let percussion be elevated to its proper place among the means of diagnosis; and, above all, suffer not ridicule be thrown on medical science by a weak and credulous enthusiasm, which would attribute to any one sign or sound a certainty of indication which a general appeal to facts would fail to substantiate.

Sir George Ballingall has favoured us with a copy of his recent letter to Sir Robert Peel on the want of special instruction for the medical officers of the Navy and Army, and the means of mending the fault. A single comment on the remedy may be sufficient, if we present a synopsis of the communication itself. Addressing the Premier, from "Edinburgh College" (Sept. 25th last), Sir G. Ballingall says in his letter, of which the following is a faithful summary,—

Sir,—To your patronage I owe my situation in this university, and you, therefore, I address on the instruction of medical officers for the Army and Navy. I have recently visited the garrison hospitals of Paris, and the military hospitals in Prussia, Austria, and Belgium, and have been much struck with the liberal provision found, particularly by Prussia and Austria, for educating their army surgeons, in comparison with the very scanty provision made by our own Government. This liberality of the foreign states is the more remarkable because it is the less called for, the surgeons of the continental armies being almost exclusively occupied on diseases occurring in their own climate, which are familiar to *every* practitioner of experience, while our own army and navy

surgeons are, two-thirds of them, constantly occupied in treating formidable diseases, that are incident to foreign stations and in tropical climates, with which teachers in this country are not practically acquainted. "Hospitals of Instruction" for the medical officers of the French army are established at Strasburg, at Metz, and at Lille. Two establishments which I have recently seen are the institution of Frederick William II., at Berlin, and the Josephinum Academy, at Vienna, the former destined to provide for the field hospitals a supply of well-educated surgeons. The Josephinum, one of the most imperial establishments in the city, costs, annually, nearly £5000, has a magnificent anatomical collection, a large hospital and clinical school, and numerous talented professors, and was established by the Emperor as "a school for supplying medical men to the Austrian army." Compare these institutions with the provision made at Chatham, Haslar, and Plymouth, and the professorship of military surgery in Edinburgh. The museums attached to the three hospitals in England are very inadequately patronised by the Government, being creations of the medical departments, not institutions of the State. The hospitals are but little calculated to instruct young men in the treatment or prevention of those diseases for which their energies will be required. A large proportion in these hospitals are not the diseases incident to men in the vigour of life, who, by efficient treatment, may be preserved to the service; but are, in many instances, the cases of men already lost to the service from confirmed and incurable organic disease. And how far are they available to men returning from foreign stations, to renovate their health and renew their professional knowledge? I know well what it is, in the distant regions of India, to be secluded for years from books and the lights of the profession; and I have witnessed with delight the avidity with which these gentlemen avail themselves of any opportunities here offered of recovering their lost ground. But it is not to Chatham, to Portsmouth, or to Plymouth, that such men will resort. It is to the metropolitan cities that they naturally look for the most recent authentic information in medicine, and the improvements which have taken place during their absence. There ought, therefore, to be in each of our three capitals at least one Government establishment, to which they may resort as a right, and find at least one professor conversant with their duties, who can enter into their wishes and constantly direct their attention to the business of their lives; where they will meet with their brethren of the service from every quarter of the world, and from whom mutual benefit may be derived.

The Chair of Military Surgery in Edinburgh was instituted under my predecessor, Dr. Thomson, author of the work on "Inflammation," and of a Report on "The Wounded in Belgium after the Battle of Waterloo," originally grounded on a memoir addressed to the First Lord of the Admiralty, after the battle of Camperdown, by the late Mr. John Bell.

Within these few months the Senatus Academicus of this University has, upon my recommendation, procured for this class, and the use of the medical students generally, the preparations made during the recent campaign of the British Legion of Spain, by Mr. Rutherford Alcock; a collection almost exclusively illustrative of gunshot-wounds—so far as I know, unique in its kind—and which, with the small collection that I had previously made, will enable the professor, in future years, to conduct the business of this class with increased advantage. I feel that the Senatus has done what might have been done by the Government; and that it has laid me under a responsibility which I desire to meet by increased exertion; but seven and thirty years have elapsed since I first entered the army as an hospital mate, and consequently I fear I am now ill able to keep pace with my wishes. Again, there is a source of information for the medical officers of the Army and Navy, namely, the "Statistical Reports on the Sickness, Mortality, and Invaliding among the Troops," and the "Statistical Reports on the Health of the Navy," which have been prepared at an enormous amount of labour and pecuniary expense, but all of which will be in a great measure lost to the service, unless means are taken to concentrate the valuable information embodied in the reports, in an attractive and impressive form, and keep it constantly before the rising generation of army and navy surgeons.

Now, of all the sources of information specially adapted to the public service, the general hospitals are, in a great measure, unavailable to the medical officers returning from foreign stations; the second, the lectures delivered in the Edinburgh University, are only accessible to a very limited number, by favour of the professor, not as a matter of right; and the third, the statistical reports, are in their present shape too voluminous to be consulted with facility, or carried about with convenience. What, then, do I propose? Simply the endowment of *a Professorship of Military Surgery* in the King's College, or in one of the Central Medical Schools in London, and a similar establishment in the University, or at the College of Surgeons, in Dublin. Exceptions have been taken to the term "Military Surgery," but I mean it to embrace not only the surgical accidents and diseases prevalent amongst troops, the doctrine of wounds, the treatment of ulcers, venereal diseases, and ophthalmia; but also of those internal diseases which are prevalent on foreign service, and in our colonial posses-

sions; and, above all, everything which concerns the selection of recruits, the choice of men for particular stations and duties, the diet, clothing, and exercise of troops, the position of camps, the site and construction of barracks and hospitals,—subjects which are intimately connected with the efficiency of the soldier, the diet and clothing of the seaman, the ventilation of ships, and all that, in either branch of the service, contributes to prevent or cure disease; for it is by prevention, rather than by cure, that the efficiency of our fleets and armies is to be maintained. Mr. Guthrie has proposed the nomination of two professors. That would, in many respects, be desirable, because a man who is eminently qualified to give instructions in all that regards the health of soldiers and seamen, may have little talent or experience in surgery.

For the present, however, I contemplate the institution of only one professorship in each metropolis.

The endowment of such professorships would be little expense, as the only men qualified to fill them have gained experience abroad, and established a claim to half-pay. An endowment of the same amount as that attached to the chair in this University, one hundred a-year, in addition to his half-pay, and the fees for qualifying themselves to become candidates for commissions in the service, would form a sufficient inducement for a well-qualified man to become a candidate for such an appointment. I have the honour to be, Sir, your very faithful, and very obedient humble servant,

GEO. BALLINGALL.

And very strange, indeed, it would be if the Sir-Robert-appointed Sir GEORGE were not all that he so gratefully and courteously declares at the close of his epistle, upon which, however, our simple comment might be,—"NOTHING LIKE LEATHER,"—a professor in Edinburgh, a professor in London, a professor in Dublin. One Sir GEORGE in Scotland; another Sir GEORGE in London; a third in Dublin,—either of whom could be swallowed up alive, chair, gown, hundred-a-year, half-pay and all, by the first "fresh and green" pupil from abroad who came hungering and thirsting after the modern knowledge in medicine, surgery, chemistry, botany, and microscopicism, which had been accumulating in the towns and capitals during his absence in the back-woods of the world for the last ten or twenty years! Why, what is the professor at King's College, for instance, to do? To give half a dozen flimsy courses of lectures to large classes of well-browned surgeons, who come hot from the very fields of experience in one quarter, to learn everything that is needful for entering upon work in another,—dropping into town some at the beginning, some at the middle, others at the end of the course—which ever course may be agoing in the College at the time of their arrival, the whole series running through twelve or eighteen months? Or if not *lecture*, what else can the professor do for more than one at a time of those surgeons who have been growing rusty on foreign stations in all that relates to medicine, excepting the very events which have been passing during the time, on board ship, or in camp, or in garrison, under their noses? Really, Sir GEORGE belongs, in the fullest sense, to the COBBLER school of reform. We say nothing of the professor's attempt at instructing new surgeons on the duties of the ten or twenty different quarters of the world to which they may severally be departing.

If we could believe that it would prove of the slightest use to address the Minister on any topic of legislation promising an advantageous change in things as they are, we would humbly submit to the Edinburgh Professor of Military Surgery—cordially joining him in his desire to remedy the want discussed—a larger scheme for amending the condition of our brethren in the services when students at home. But he must be "fresh and green," indeed, who expects any aid on the subject from such advisers of the Crown as those who have lately tried to hide the offensiveness of our existing medical laws with the fig-leaf charter of Lincoln's-Inn-Fields; so for the present we decline to enter with Sir GEORGE upon this quite-certain-labour-in-vain.

THE COLLEGE OF PHYSICIANS ON HOMŒOPATHY.

To H. Badcocke, Esq., Wells Union.

SIR,—Adverting to the correspondence which has passed between the poor-law commissioners and the guardians of the

Wells Union, on the subject of Mr. Newman, one of the medical officers of that union, following the homœopathic system of medicine, in his treatment of the sick poor under his care, the commissioners considered that in their final decision in the matter was involved a question of a strictly professional character, of such importance as to require the opinion of the highest authority intrusted with the superintendence of medicine in this country. With this view they submitted a statement of the circumstances of Mr. Newman's case to the Royal College of Physicians, from whom the commissioners have received the following communication, stating that the college, having carefully considered the question proposed to them, are of opinion, that a person who practises exclusively the homœopathic system is altogether unfit to be appointed to the situation of a medical officer of a union.

Under these circumstances the commissioners request Mr. Newman will forthwith resign his office of medical officer, as if he should not do so the commissioners will remove him therefrom by an order under their hands and seal. I am, Sir, your most obedient servant,

GEORGE CORDE, Assist.-Sec.
Somerset-House, July 1, 1843.

To the Poor-law Commissioners.

Gentlemen,—I am directed by the Royal College of Physicians to inform you, with reference to your letter of the 10th instant, that they have carefully considered the question therein proposed to them, and are of opinion that a person who practises exclusively the homœopathic system is altogether unfit to be appointed to the situation of medical officer of a union.

Although such a person may be legally qualified to practise as a surgeon and apothecary, yet if he chooses to adopt a new and unrecognised system, to the utter exclusion of all those methods of treatment which have received the sanction of authority, and are recommended by usage and long experience, it is clear that he must do so under a heavy responsibility, attaching, in the case of a medical officer, not to himself only, but ultimately to the guardians who appointed him, and to the commissioners who failed to cancel such an appointment. Against a person so practising, unless it were with the full knowledge and consent of his patients, any of them who conceived that he had been improperly treated, and had thereby sustained an injury, might have ground for an action for damages; and if death were to ensue under his care, unexpectedly, he might be criminally prosecuted.

But the pauper patients of a union can neither choose upon what system they will be treated, nor, if they should think themselves or their relatives injured through improper treatment, is it likely that they could find the means of seeking the redress which the laws might possibly award them.

The foregoing considerations appear to the college to be conclusive against the propriety of appointing a person who professes to practise, exclusively, an unrecognised system, to the medical charge of a union. They deem it unnecessary, therefore, to advert to arguments of a medical nature, which might be adduced to the same effect; and they leave it with confidence to the judgment of the poor-law commissioners to decide as to the course which it will be proper for them to pursue in this matter. I have the honour to be, Gentlemen, your most obedient servant,

FRANCIS HAWKINS, M.D., Reg.
College of Physicians, Pall-Mall East,
June 27, 1843.

The foregoing "opinion" is extracted from a pamphlet by Mr. NEWMAN, the title of which will be found amongst our notices of "Books Received." Mr. NEWMAN declined to retire, voluntarily, from his office of surgeon to the union; the commissioners, therefore, executed their threat to remove him according to law. Mr. NEWMAN seems to be a very enthusiastic and conscientious disciple of the little-pill school, and makes great remonstrance against the proceeding of the commissioners, as though they had acted unfairly towards him. He wholly forgets that surgeons are appointed in unions, under the law, expressly to practise *medicine* on behalf of the sick poor, and that Hahnemannism is not "Medicine." If the contract tailor persisted in making cloth shoes for the men, or the union Crispin refused to employ his awl in manufacturing any other than leather breeches for the women, the anomaly could not be greater, or supported with better reason.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, November, 14, 1843.

Mr. STANLEY, President.

THIS was the first meeting of the session. The attendance of members and visitors was very great. The uncourteous custom of keeping invited guests waiting in an anteroom is still persevered in.

On taking the chair, the President made some general remarks on the prosperity of the society and the excellence of the last volume of the Transactions, to several papers in which he referred in support of the assertion.

An Account of Two Cases of Rupture of the Ureter, or Pelvis of the Kidney, from External Violence, followed by large Effusion of Urine into the Abdomen. By EDWARD STANLEY, Esq., Surgeon to Bartholomew's Hospital.

The first case was that of a boy nine years of age, whose pelvis had been squeezed between the wheel of a cart and the curb-stone. Extensive suppuration ensued in the contused part around the pelvis; several ounces of matter were discharged by puncture near the left sacro-iliac symphysis. At the end of six weeks an oblong swelling was observed in the right side of the abdomen, extending from the margin of the ribs downwards to within a short distance of Poupart's ligament, reaching anteriorly to the linea alba, and posteriorly to the lumbar region. By pressure deep fluctuation could be recognised, but there was no pain; the urine passed naturally. A small puncture was made in the swelling, and a little clear yellow fluid escaped. Three weeks after, as the swelling had become more tense and pointed, it was punctured, midway between the last rib and the crista ilii, with a small rocar; when fifty-one ounces of clear yellow fluid were discharged. The swelling now increased very slowly, on which account it was not interfered with for nearly three months; when it was again punctured, and seventy-two ounces of fluid of the same character as before were removed. On being punctured three weeks afterwards, for the sixth and last time, only six ounces of fluid were obtained. After each operation some pain in the abdomen was produced, which was relieved by leeches. To reduce the swelling, a large blister was at one period applied, and the ointment of the iodide of potassium was used for a considerable time; but neither of these measures appeared to be of any service. The general health of the patient continued good. As the tumour ceased to enlarge, and did not perceptibly diminish in size, the boy was discharged from the hospital, nine months after the occurrence of the accident. He has been subsequently seen by the author of this paper, in good health, the abdominal swelling being still distinct, though smaller. The fluid which was drawn off was analysed at various times by Mr. Edward Ormerod and by Mr. Taylor, both of whom detected the presence of urea and other ordinary ingredients of urine.

The second case occurred in St. Bartholomew's Hospital, under the care of Mr. Vincent. A woman was admitted immediately after having been knocked down by, and pushed some way before, the wheel of a cart. The left femur was fractured, and she was, besides, much hurt in the right hypochondrium, where pressure gave considerable pain. For several days she had much febrile disorder, accompanied by severe pain and distention in the abdomen, requiring venesection, the application of leeches, and calomel and antimony in frequently-repeated doses. When the general distention and pain in the abdomen had subsided, there remained a circumscribed and painful swelling in the right hypochondrium, which, it was thought, must be connected with the liver. For some days the swelling increased, and fluctuation could at length be recognised, the patient, during this time, complaining of general chilliness, and having paroxysms of pain and throbbing in the swelling. It being supposed that abscess connected with the liver had taken place, a puncture was made in the swelling with a small trocar, when between two and three pints of a straw-coloured urinous-smelling fluid were discharged. The urine had, throughout, been passed freely, and in full quantity. In about ten days, the swelling having increased to such a degree as to occasion much distress, six pints of fluid, possessing the same characters as before, were drawn off. In a few days the pain and swelling returned, and the patient died in the tenth week from the receipt of the injury. The fluid obtained from the abdomen was found to be albuminous, and to contain a small quantity of urea. Upon examination of the body, a large cyst was found on the right side of the abdomen, extending upwards to the diaphragm, and downwards to the brim of the pelvis. A passage was found to extend from the upper part of this sac into the pelvis of the right kidney, the aperture being large and irregular, and such as might be expected to result from laceration of the membranous structure composing it. A preparation exhibiting the appearances in this case was on the table of the society. The author concluded by adducing several arguments in support of his opinion that either the ureter or the pelvis of the kidney had been ruptured in the first case, as was proved, by dissection, to have happened in the second; and by adding practical remarks on the effusion of urine into the cellular membrane.

Mr. CÆSAR HAWKINS believed that he had met with a case somewhat similar to the first detailed by the President, from whom, however, he differed in the explanation offered respecting it. In his (Mr. Hawkins's) case, a boy, seven years of age, received a blow on the abdomen. He was admitted, six weeks afterwards, into St. George's Hospital. Ever since the accident he had been unwell, and had suffered from pain in the right side of the abdomen. A fluctuating tumour was situated in this neighbourhood. A puncture was made into this, and three pints of fluid were drawn off. This fluid was clear, contained hardly any albumen, and had no urinary smell. The boy was relieved, but the tumour filled again, and, notwithstanding it was again punctured, he died at the end of three weeks. After death, a large cyst

was found extending up the affected side as high as the liver; it lay in contact with the kidney, but had no connection with it. This case, in the society's Transactions, had been called one of "serous cyst." Now, in this case there was no direct communication with the kidney, and yet the sac filled on more than one occasion. In Mr. Stanley's first case, if there had been a rupture of the pelvis of the kidney, why were not the products of urine found in the cyst? In the second case he inquired whether the cyst might not have been a mere serous cyst, as there was scarcely any products of urine in the fluid found in it. Was the pelvis of the kidney ruptured at all in this case, or did it communicate with the cyst by ulceration?

Mr. Stanley said that in the second case he had no doubt whatever that the pelvis of the kidney was ruptured and communicated with the cyst. This was, unquestionably, the fact. In the first case the patient recovered, and some doubt was at first felt as to whether the cyst had communicated with the kidney, but the examination, by several excellent chemists, of the fluid drawn from it (which Mr. Hawkins wrongly supposed had been omitted), left little doubt on the point, as they detected a quantity of urea in it, and it had the other characteristics of urine. He therefore thought the cyst was the result of some lesion of the urinary apparatus.

Mr. Lloyd remarked that in the second case the fluid found in the cyst had a decidedly urinous smell. The sister of the ward had added her testimony to that of the surgeons on this point.

Mr. Bransby Cooper, who had arrived late at the meeting, and did not precisely catch the purport of the two cases under discussion, rose to relate a case of rupture of the kidney from external violence, as one "in point." He knew little of the facts of the case, as Mr. Callaway had first seen it. It appeared, however, that a man fell and was struck across the loins. He was taken home to his lodgings in a state of collapse. The usual means for removing this condition were resorted to, and subsequently bleeding, opium, and other means, were taken to relieve the pain under which he suffered. The evidences of lesion of the kidney consisted in the fact of blood being mixed with the water, which was voided with great pain, and the presence of a large tumour in the right iliac region, which was at first supposed to be an abscess, but was subsequently proved to be extravasated blood, by its becoming more solid and circumscribed. In addition to these, the urine gradually became clearer and the patient recovered.

Mr. Arnott thought that in the first case there was sufficient evidence to show that the contents of the sac were really urinary, and he agreed with the President respecting the nature of the second case. He did not see why, in the first case, the patient should not recover from lesion of the pelvis of the kidney; gun-shot wounds of the bladder often did well. A case had occurred in his own practice which, with the exception of the fact of the man recovering, offered complete evidence of rupture of the bladder. A groom was riding a spirited horse, which reared and fell upon the rider. He was brought to the hospital, and the impression was that the bladder was ruptured. He was quite unable to make water, there was pain over the pubes, and when the catheter was first introduced no fluid passed through it. When again introduced, blood came away, and after a few days, urine, at first in small quantities, but afterwards gradually increasing to a full current. In this case it was at first a question whether the perineum should be cut into; leeches, however, afforded relief and the man went out quite well. In this case the evidence was complete of rupture of the bladder, except that the man recovered.

Mr. Ormerod remarked that the difference, in respect to albumen, between the fluid drawn from the cyst and that passed from the bladder in the first case, was dependent upon the cyst itself, and not upon any difference in the fluid. The same circumstance was observed in the second case, and explained away the difficulty.

Two Cases of Ulcer of the Stomach, producing Circumscribed Abscesses of the Peritoneum. By E. J. Seymour, M.D., F.R.S., Physician to St. George's Hospital.

The first of these cases occurred in a female servant, aged 25, admitted into St. George's Hospital January 16, 1843. Two days previous to her admission she had been attacked with sudden pain in the epigastrium and left hypochondrium, extending over the whole abdomen, accompanied by vomiting, which, however, had ceased. The countenance was sunken and expressive of extreme distress; and there was pain over the whole abdomen, which was very tense and extremely tender. Notwithstanding, the exhausted state of the patient, the obvious presence of peritonitis, and the recent nature of the attack, indicated venesection. She was, therefore, bled to sixteen ounces, and ordered calomel and opium, in doses of three grains and one grain every four hours, and a turpentine injection. She afterwards had leeches applied, and fomentations; and, on the 18th, she expressed herself as "greatly relieved, and without any pain in the belly."

On the 19th she suddenly complained of most acute pain in the epigastrium and left side. Pulse quick and small, with excessive palpitation. The pills were again ordered, and a blister was applied, with the effect of greatly relieving the pains. The dejections were now healthy, and the abdomen, throughout, could bear pressure; but the pain con-

tinued in the left hypochondrium and extended to the chest, with occasional syncope and impossibility of breathing with the left lung. Aphthæ soon appeared in the mouth; the pills were omitted and light nourishment given, and for two days she appeared to be relieved; without any increase of the symptoms, however, she died, almost instantaneously, on the 27th, ten days after admission.

After-death Appearances.—Abdomen: The left part of the transverse colon and the anterior margin of the left lobe of the liver were united to the anterior parietes of the abdomen, so as to form a closed sac, which was filled with fetid pus and some of the contents of the stomach. The left lobe of the liver was enlarged, and covered the greater part of the anterior surface of the stomach. On lifting up this portion, the contents of the stomach oozed out of a small aperture communicating with an ulcer situated about an inch below the middle part of the lesser curvature; its size was less than a shilling, and its shape oblong; the vascularity of the mucous membrane around it was but slightly increased. Another small ulcer was found in the lower part of the posterior wall, which had nearly destroyed the mucous membrane, The convolutions of the small intestines were glued together by recently-effused lymph. Thorax: The lower part of the left lung was united by lymph to the diaphragm. Lungs healthy. Pericardium contained serum mixed with recent lymph.

The second case was in a female servant, aged 20, who had been ill for several months; was pale and emaciated, and complained of severe pain in the right hypochondrium and around the umbilicus; pulse quick and weak; tongue red and glazed; she had taken much purgative medicine without relief. About ten days after her admission she was attacked suddenly with violent palpitation of the heart; and now, for the first time, she coughed and expectorated dirty purulent matter, very fetid. This matter being spit up freely, the patient's state improved, and she asked occasionally for food. On the 8th of December (a fortnight after her admission), without any increase of symptoms, and after taking breakfast, she suddenly expired.

After-death Appearances.—The transverse colon, liver, and stomach, were glued together by old and firm adhesions; and, in endeavouring to separate them, the parietes of the stomach gave way. On its posterior surface, towards the great curvature, was a large ulcer, which had destroyed all the coats, the deficiency being made up by the pancreas adhering to the circumference of the ulcer. The remaining part of the mucous membrane of the stomach was somewhat thicker, but otherwise healthy. The upper surface of the right lobe of the liver was partially adherent to the diaphragm, the adhesions formed the walls of an abscess the size of a child's head, bounded above by the diaphragm, below by the liver, and on either side by the union of the diaphragmatic and hepatic layers of peritoneum. The matter in this cavity had ulcerated through the diaphragm, and made its way into the substance of the right lung, communicating with several of the larger bronchial tubes. There was a small quantity of serum in the right sac of the pleura. The right lung, with the exception of the adhesions to the diaphragm and the ulceration of the bronchial tubes, was quite healthy. In the left lung were several patches of grey hepatisation.

The author remarks that there are many cases on record of the perforating ulcer of the stomach; those now related are remarkable, both from the length of time which elapsed between the perforation and the death of the patient (almost every other case having proved fatal within twenty-four hours of the attack), and also from the entire abscence of vomiting after the first few hours. He alluded to the prevalent opinion that these cases, if not peculiar to, are far more frequent in, females than in males; but, an examination of the cases on record, he says, proves there is no foundation for such a conclusion, as they are nearly equally divided between the sexes; in the ten recorded by M. Cruveilhier, nine occurred in men and one only in a woman.

Mr. B. Cooper inquired whether it was usual, in cases similar to the first related, to use turpentine injections; was there not sufficient irritation already existing?

Mr. Shaw recollected examining a body in the dissecting-room in which he found an ulcer, the size of a shilling, in the anterior part of the stomach, near to the larger curvature. This ulcer had evidently existed for years; there was no appearance of inflammation about its edges, which adhered to the omentum, whereby a sac was formed, capable of holding three ounces. This sac contained a mucous secretion similar to that found in an empty stomach.

A visitor related a case of a chlorotic young woman, who died from ulceration of the stomach. There was nothing remarkable in the symptoms.

Mr. Lloyd related the following case:—A man, forty-five years of age, had suffered from dyspepsia for two or three years. The complaint gradually increased in severity, and at last he had constant sickness. His food was not retained for two minutes. Shortly before death a fulness and hardness were detected in the epigastrium, for which leeches and blisters were applied. Blood now became mixed with the food vomited up. The hardness and fulness gradually assumed the character of a suppurating tumour, and it was deemed advisable to open it. The man, however, suddenly died, from vomiting up blood, before this was

resorted to. It was found, on examination, that an ulcer of the stomach had perforated the rectus muscle, causing the formation of an abscess in the cellular tissue anterior to it. Had this abscess been opened, the contents of the stomach would have passed through the wound.

Dr. Webster thought the cases detailed to the society interesting, but he differed in opinion with the author as to the frequency of similar affections among males. He (Dr. W.) considered such diseases were more common in females than in the other sex, and referred, in proof of this assumption, as well to Dr. S.'s own cases, both females, as also to the paper published in the "Archives Générales" on rupture of the stomach, which had been mentioned by the author. In that paper, all the cases related (not less than ten in number), excepting one quoted from Richter, were females; and, what is curious, they were either young or middle-aged persons. With reference to those cases, he (Dr. W.) would beg to allude to some peculiar circumstances respecting their history, namely, that in all, the immediate cause of the rupture in the stomach appeared to be the presence of a large quantity of indigestible or impure food, particularly unripe fruits and esculent vegetables. For example, four had eaten largely of prunes, grapes, apples, and currants; three of haricots; one of green peas and salad, &c. The fact of having taken such substances was confirmed by the articles themselves being found in the stomach on dissection, and even in the abdomen, from having escaped through the ruptured part of the former viscus; and although the author had not alluded to the food taken by his two patients previous to the fatal symptoms supervening, he (Dr. W.) would draw attention to the circumstance, more especially as in the second case related by Dr. Seymour, it was stated that the patient was suddenly seized after breakfast.

WESTMINSTER MEDICAL SOCIETY.

Saturday, November 18, 1843.

Mr. Fisher, President.

TREATMENT OF SCALP DISEASE.

The President stated that, during a late visit to Brussels he had gone over the hospital of that city, and had been informed by M. Sauterne that he had found one of the most effectual remedies for scald-head, ringworm, &c., to be an ointment, the chief ingredient of which was wood-soot. The common soot of the chimney was collected, placed in a quantity of water, and macerated by a gentle heat for four days,—the fluid was then strained and evaporated in an open vessel to the consistence of treacle. An equal proportion of this and common lard, or unguent, were mixed together, and applied to the affected part night and morning. The head was shaved as often as necessary, and washed thoroughly every third day. The active principle of the ointment was probably creosote.

Mr. Snow remarked that the curative effects of the ointment were probably dependent on the creosote and a small quantity of pyroligeneous acid which it contained. He had somewhere read of the pyroligeneous acid having been applied with success in cases of tinea capitis. M. M'Intyre, of Newcastle-upon-Tyne, had many years since used the tar-ointment with great benefit in various scalp affections.

Dr. Sayer believed that much of the curative efficacy of this ointment depended on the daily washing of the affected parts with the soft soap of the country, which contained much more alkali than ours did. When he was in Brussels, twenty-nine years since, the nurses washed the heads of the patients regularly every morning. The ointment then employed, and which he was still in the habit of using with the most decided good results, consisted of equal parts of charcoal, so burnt as to retain its pyroligeneous acid, nitrate of potash, and common brimstone, worked up with hog's-lard into an unguent, and applied night and morning. In addition to the daily washing, the head was shaved every fourth day. This ointment was mentioned in the "Pathology" of Pinel as efficacious in tinea capitis.

Mr. Fisher said that in Christ's Hospital the ringworm was treated with an ointment containing five grains of the bichloride of mercury to an ounce of lard.

Mr. Hancock attributed the great difficulty of eradicating ringworm and other contagious scalp diseases, when they affected a great number, to the indiscriminate mixture of the persons, the continued use of the same cap or hat, and the placing different persons in the same bed on different occasions. He stated that he had been requested to go to an union workhouse in Sussex, in which above sixty of the children were affected with ringworm. Every kind of means had been used for its removal without effect. He ordered the children to be separated by being placed in various cottages about the neighbourhood; a complete cure followed.

INJURIES OF THE SPINE. PARALYSIS.

Mr. Hancock related a case which had lately happened in Charing-cross Hospital. A man was admitted with paralysis of the lower extremities and of the bladder and rectum, consequent upon a blow on the lower part of the spine, received by falling across a ladder. On admission he was without motion or sensation in the lower extremities; the bladder had to be evacuated by the catheter, and the fæces passed involuntarily. On tickling the soles of the feet the legs were retracted. On examining

the back there was much swelling, but no displacement could be detected, and it was thought probable that the pressure depended on the rupture of some of the spinal vessels. He was cupped over the seat of the injury, and a blister placed on each side of the spine. In a short time sensation gradually returned, and motion to the extent of bending the thigh on the pelvis, but the loss of power over the bladder and rectum continued. He went on in this way for six weeks, the power of motion, in the meantime, gradually diminishing. He retained sensation until the last, when he sank, worn out by bed-sloughs and exhaustion. On examination after death there was found to be partial dislocation between the last lumbar vertebra and the upper end of the sacrum. There was also fracture of this bone through half its extent in the vertical direction. The re was a small spicula of bone pressing against the anterior portion of the cord, leaving the posterior portion quite free. This pressure explained the loss of motion and the retention of sensation to the last, but it was curious that he should recover motion at all. The urine in this case was exceedingly alkaline, and the pelvis of the kidney contained a calculus of triple phosphate. The anterior portion of the spinal cord was not altered in structure, but was only irritated.

Mr. FISHER related the case of a policeman who received a blow on the lower part of the spine, which was followed by paralysis of the lower extremities, and of the bladder and rectum. At the end of three or four months he recovered full power over all these parts, but eventually became again affected, and in addition to the paralysis had delirium. He remained quite helpless.

Mr. RUTHERFORD ALCOCK said that the interesting case related by Mr. Hancock offered some points of interest. First, as to the alkaline condition of the urine. Now he had noticed that in all cases of severe concussion at the lower part of the spine the urine invariably became alkaline, its alkaline character becoming gradually less distinct as the symptoms of concussion gave way. He attributed the change to an altered action of the kidney and not to retention of the fluid in the bladder, as some had supposed, for even when the catheter was frequently introduced the same result took place. He thought in the first instance, in Mr. Hancock's case, the symptoms were referrible to concussion simply, and were relieved by the mode pursued; for concussion of the spine was attended with loss of power and sensation, as much as concussion of the brain suspended the functions of that organ. The relief of the symptoms would in both cases follow the employment of bleeding. He had in the society a few years since read a paper on Compression of the Brain, in which he had attempted to draw a distinction between compression, as the mere effect of concussion, by which a larger quantity of blood was thrown on the nervous fibre, which thereby became irritated, and would not bear the same pressure as in its healthy state it would,—and that compression which resulted from extravasation of blood or pressure of the bony parietes. In the first, the loss of a small quantity of blood removed the symptoms; in the other, blood-letting had no such effect. He was convinced that if we were to make progress in our knowledge of injuries of the spine and brain it must be by attention to minute points of difference, such as those he had mentioned.

VARICOSE VEINS.

The PRESIDENT said that when in Brussels he had witnessed several cases of varicose veins treated by the potassa fusa in the manner recommended by Mr. Mayo. The plan, he had been informed, was always successful, and no bad consequences had ever followed its employment.

Mr. CHANCE had repeatedly, when a dresser in the Middlesex Hospital, under Mr. Mayo, put the plan in question into operation. He remembered no case in which it had failed to effect a cure. Subsequent experience had confirmed the efficacy of the plan. On no occasion did he see any bad effects follow the proceeding, although in one instance a slough, two and a half inches long and one broad, was formed through the slipping of the strapping.

Mr. ALCOCK remarked that very many patients were lost from phlebitis, consequent upon interfering with varicose veins, and suggested that, in some cases, sufficient caution was not exercised in preparing the patients for the operation.

Mr. STORKS remarked that he believed Mr. Mayo first adopted in this country the practice of obliterating veins by the caustic potass. He had seen a great number of cases treated in King's College Hospital, by Mr. Fergusson, on the methods of Velpeau and Davat; that of Velpeau consisting in the needle being passed beneath the vein; that of Davat in its being thrust through, so as to transfix the vein, the point being brought out by piercing the coats again from below (thus the vein being wounded in four places), a thread then twisted over the ends of the needle, as in the twisted suture: these were allowed to remain until sufficient inflammation had been produced to obliterate the vein. He had seen an union of these two methods attended with the best results. Ulcers existed in most of the examples, and it was, indeed, surprising to see the effect produced upon them in twenty-four hours after their introduction. It was curious to observe how, in one instance, a sufficient amount of inflammation was produced in a very short space of time, and in others several days elapsed before the desired effect

was produced. He wished it, however, to be understood that he did not advocate interference with varicose veins unless they produced much inconvenience, as when they were accompanied with ulcers on the leg or hæmorrhage. He had been recently called to a case in which a lady was in considerable danger from hæmorrhage produced by the bursting of a varix in the leg; in that instance he applied the needles according to the plan of M. Velpeau with success. He thought that the danger attending operations upon veins had been much overrated, which opinion he believed to be entertained by many distinguished members of the profession. There were many examples of the minor operations producing death, but this did not deter the practitioner from again repeating them. In those instances where numerous small veins are in a varicose condition, he had seen benefit accrue from a practice first recommended by Sir B. Brodie, viz., their division by a subcutaneous incision. He begged again to remind the society that it was only in those cases where the patient's life was in danger, or the disease was exceedingly troublesome, that he would attempt the radical cure.

Mr. NORMAN said that in University College Hospital the practice of interfering with varicose veins by operative procedure had been given up, in consequence of the disastrous results of some of the cases. One case, he knew, had been lost from hæmorrhage, and one from phlebitis. In these cases the ligature had been applied. In cases in which the operation had been successful, the effect upon the ulcer had been most striking and immediate. An objection to the operation when successful, consisted in the blood being thrown on other veins, which subsequently required to be operated on.

Some remarks were made by Messrs. Snow, Brooke, Hillman, and others, respecting the causes of varicose veins, after which the society adjourned.

MEDICAL SOCIETY OF LONDON.

Monday, November 20, 1843.

Mr. PILCHER, President.

EFFECTS OF MERCURY.

A MEMBER related a case of ulceration of the throat, apparently produced by mercury, and, as he believed, terminating fatally by involving a small vessel in the ulcerative process. The patient was a gentleman, sixty years of age, in general good health, and free from syphilis. About a month ago he caught cold from riding on the outside of a coach for some distance. He took a few doses of calomel, which produced profuse salivation and ulceration about the velum and pharynx. From one of these ulcers, probably situated behind the velum, hæmorrhage occurred on several occasions, and he seemed worn out by the loss of blood. No post-mortem had been allowed by the friends. The case was mentioned with the view of ascertaining the experience of members on the subject.

Mr. STORKS related a case of a gentleman, worn down by mercury and syphilis, in whom slight hæmorrhage from the mouth suddenly occurred, and he died. A slough, the size of a dollar, was found in the trachea, near to its bifurcation. The air-passages and lungs were gorged with the blood which had proceeded from this ulcer.

Mr. PILCHER thought it would be interesting to discuss the effects of mercury, or of salivation, on the mouth and fauces. He thought, in the first case related, it was extremely probable that the hæmorrhage had occurred from a single slough. He had seen frightful hæmorrhage from the fauces as the result of mercury, both in small and large quantities. He had seen these hæmorrhages in children. He related a case in which a man afflicted with syphilis, dropsy, and rheumatism, took a moderate quantity of mercury, and was profusely salivated. The teeth fell out, a portion of the alveolar process came away, and the poor fellow was sinking from hæmorrhage, clots of blood constantly forming in the mouth, which, with the greatest effort, he removed. Under these circumstances Mr. Pilcher was called in. The mouth was well cleansed, and the nitrate of silver applied. The man recovered. A quantity of blood was swallowed and vomited up again. He related another case in which a gentleman, under the influence of mercury, was suffocated by his tongue becoming suddenly hypertrophied.

Mr. LINNECAR made some remarks on the difficulty of regulating our doses of mercury, the effects of which were sometimes such as brought blame on the practitioner without just cause.

Dr. WALLER said that mercury had different effects at different times on the same persons. He related the case of a lady who, being ill, took some pills containing a preparation of mercury, with the best effect, so far as her complaint was concerned. They took no effect on her mouth. On a subsequent attack of the same complaint the same pills were ordered, and rapidly produced profuse salivation. He referred to a case related by the late Dr. Babington, in which a portion of the tongue sloughed, as the result of one grain of calomel given for three nights successively. In dispensary practice he had occasionally seen sloughing to a great extent and ulcerated throat as the effect of mercury, but he recollected no case of profuse hæmorrhage from that cause.

Mr. HEADLAND had no doubt that the state of the atmosphere influenced very much the effects of medicines, particularly of mercury. He had noticed this to be the case,

more especially during the last five or six weeks. He related a case of profuse salivation from a minute dose of mercury which had occurred within a few days. The susceptibility to the influence of mercury seemed also to run in families. He dwelt on the importance of calomel to young children affected with acute pneumonia. He had given a grain of calomel every two hours to a child nine months old, suffering from that disease, without producing any marked effect, except a relief to the symptoms and green motions. At other times the same children thus treated would not bear anything like the same quantity of calomel. It would seem that the medicine expended its strength on the disease.

Mr. HOOPER had used calomel in the same free manner as Mr. Headland in the acute pneumonia of children. Neither this medicine nor tartarised antimony exhibited in that disease their specific effects of salivation or nausea. They only subdued the action of the heart and arteries, and thereby removed the disease.

Dr. RISDON BENNETT inquired whether the non-susceptibility to the influence of mercury was not general with regard to children. Dr. John Clarke had stated that he had never seen a child under two years of age salivated. He (Dr. Bennett) might echo the remark. He had seen severe affections of the mouth and gums in children during the time they were taking mercury, but he did not think they were attributable to that medicine.

Mr. CRISP had never seen hæmorrhage as the result of mercury, and attributed the effect in the first case to hæmorrhagic diathesis. He questioned whether the mercury in Mr. Pilcher's case produced the hypertrophied tongue, as cases of that disease were related in which mercury had not been given. He referred to a fatal case of epistaxis, of which no appearances after death explained the cause. He had seen sloughs of the mouth and gums, and of the vagina in young children who had taken three or four grains of the grey powder, but these effects had nothing to do with the mercury.

Dr. CHOWNE had seen cases of general hæmorrhage, so as to discolour the saliva, in cases of ptyalism, the result of mercury. He had seen no case precisely similar to the first.

Mr. DENDY believed that in the case first related there must have been a hæmorrhagic tendency in the individual. With respect to the influence of mercury on children, he observed that when it did take effect on them it was not in the form of salivation; but it was, nevertheless, deleterious. He had seen a child lose the incisor teeth and part of the alveolar process as the effect of mercury. He suggested the employment of mercurial tonics in those cases in which there was a hæmorrhagic tendency, with the view of improving the constitution.

In some conversation which followed, reference was made to turpentine, and its effects on hæmorrhage. Would it not have been serviceable in the first case related? No member had seen a case precisely analogous to that one, though several had seen instances in which mercury had produced deleterious effects. Differences of opinion prevailed as to the amount of influence which mercury exerted in bringing on the hæmorrhage; and whilst, on the one hand, all the credit was given to that medicine, it was as strongly contended on the other, that the effect was due to the hæmorrhagic tendency. Others, again, thought the two causes had combined.

A case was related by Mr. Crisp of hæmorrhage following the extraction of a tooth, which, after all other means had failed, was arrested by a plug made of cork.

Some merriment was caused by inquiries respecting the absurd mode of stopping hæmorrhage from the nose by holding up one arm.

ROYAL MEDICO-BOTANICAL SOCIETY.

Thursday, November 9, 1843.

THE society commenced its sessional meetings this evening.

Mr. RODGERS gave a lecture on some of the views of Liebig.

COLCHICUM.

Dr. HOULTON exhibited some spontaneously-dried cormi of colchicum. He observed that a small bulb is attached to the cormus, which bulb contains the rudiments of the new plant. The cormus itself is a mere reservoir of nourishment for the new plant, which it supplies until it becomes able, by means of its own roots, to derive sufficient support from the soil. At the period when the cormus is in its mature state the bulb is very small, but may easily be seen on removing the tunic of the cormus. The cormus will not dry spontaneously without the removal of this little bulb. Dr. H. brought forward a cormus, with the bulb attached to it, and which had been placed in the same temperature, &c., as the dried one, but it was quite fresh; the bulb had germinated, and the new plant was now rather more than an inch long. Had it been placed in circumstances more suited for its development, it would have flowered at least a month ago. The fact of the cormus drying in its entire state *extends* the principle which Dr. H. laid down in the summer, in a paper read before this society, viz., that all *true* roots may be dried in their entire state without the aid of artificial heat. The rule he has proved may be applied to cormi, therefore

it is unnecessary to risk this delicate article of materia medica by exposing its juices to the action of the atmosphere, which must be the case if the college rule be followed.

Dr. HOULTON afterwards read a paper on the Physalis Alkakengi, or winter cherry, a plant possessed of diuretic properties, which was formerly much used, but having been struck out of the Pharmacopœia in 1745, had fallen into disuse. It is of the class and order Pentandria Monogynia of Linnæus, of the family Solanaceæ in the natural arrangement. The berry is the part used, and of these from ten or twelve to forty or fifty are given as a dose. The expressed juice, both fluid and inspissated, is used medicinally. Caspar Hoffmann says the common people eat the berries by handfuls for suppression of urine, and to promote the expulsion of gravel and mucus.

Dr. SIGMOND, in alluding to the Monesia, which had been recently brought before the profession, stated that it was introduced by M. Derosne, in 1840, as a valuable tonic and astringent. Subsequent investigations, however, showed that instead of being, as he had represented, the product of a South American bark, monesia was a compound drug, consisting chiefly of kino and catechu.

UNIVERSITY OF LONDON.

SUCCESSFUL CANDIDATES

At the Second Examination for the Degree of M.B., November, 1843:—

First Division.

Edward Ballard, University College; Robert Barnes, adjoining St. George's Hospital; Adolphus Barnett, London Hospital; Joseph Hullett Browne, Guy's Hospital; John Jones Davies, London Hospital; Henry Fearnside, University College; George Yeoman Heath, University College; William Edward Humble, University College; Thomas Leonard, University College; Frederick Robert Manson, King's College; George Augustus Rees, St. Bartholomew's Hospital; Richard N. Rubidge, Guy's Hospital; Robert John Spitta, St. George's Hospital; Silas Stilwell Stedman, University College; Alfred Joseph Tapson, University College; John Topham, University College; Stephen Henry Ward, London Hospital.

Second Division.

Hugh Bell, Guy's Hospital; Charles Richard Francis, Middlesex Hospital; Thomas Lloyd Jones, University College; John Snow, Westminster Hospital.

NEWS OF THE WEEK.

THE deaths in the metropolis during the week ending Nov. 11th amounted to 1016, being still a number materially above the weekly average (908) for the five past autumns, though less by 44 than the deaths in the week preceding. The decrease was mainly in deaths from epidemic diseases 197 instead of 247); from the heterogeneous category of cases brought together under "diseases of uncertain seat" (104 instead of 114); and from natural decay (68 instead of 84, as in the week previous). Deaths from diseases of the brain and nervous system had increased to 166 (from 146); those from diseases of the respiratory organs, to 344 (from 322); and those from diseases of the heart and large vessels, to 30 (from 25, as in the week before). The mortality from diseases of the digestive organs, kidneys, skin, &c., from violence, remained nearly stationary. Deaths from typhus, 34, diarrhœa, 12, hooping-cough, 30 (51 in the week before), scarlatina 60, measles 32, being a decrease in each particular as compared with the antecedent week; but the deaths from small-pox had increased by 5, amounting to 7 fatal cases.

THE Statistical Society of London held their first meeting for the season on Monday evening, Nov. 20th. An interesting paper was read by Dr. Guy, of King's College, on the Influence of Employments on Health, of which we may present a summary when published, as it is to be, in the next number of the society's journal.

ALDERSGATE MEDICAL SCHOOL. — The teachers of the above school held their first conversazione on Tuesday, the 10th inst., at the house of Dr. Waller, in Finsbury-square, he being the senior member of the establishment. About one hundred members of the profession assembled on the occasion, and were highly gratified at the various microscopical objects exhibited by Dr. Goodfellow, the lecturer on physiology. Messrs. Goadby, Varley, Powell, and Leland, also lent their aid in exhibiting specimens of comparative and vegetable anatomy.

Mr. C. GUTHRIE has resigned his appointment of assistant-surgeon to the Westminster Hospital. Mr. B. Phillips, a *literary* surgeon, spoken of a candidate for the vacant office.

DR. WATSON has resigned his appointment of physician to the Middlesex Hospital. The medical officers have invited Dr. Seth Thomson to become a candidate for the office. It is said that in the event of his doing so, he will be opposed by Dr. Merriman, Jun.

OUR worthy publisher, Mr. CHURCHILL, this year stands godfather to the MEDICAL ALMANAC for 1844, whereby the work has fallen under good care, and become remarkable for the large amount and fidelity of its information. It should have an universal circulation in the profession, which the price —one shilling only—will tend to ensure. It is literally crammed with useful facts and intelligence relating to the medical institutions of England, Ireland, and Scotland. There is no other medical almanac now published.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

LIST of gentlemen admitted members on Friday, Nov. 17, 1843:—J. Hanks, F. Meheux, L. Powell, H. Daubeny, L. Bland, F. A. Oldaker, H. M. Webb, W. D. Headly, E. Thomas.

APOTHECARIES' HALL, LONDON.

NAMES of gentlemen who received certificates of qualification to practise as apothecaries, on Thursday, Nov. 16, 1843:—John Byrom Brambell, North Shields; Edward Johnson; Francis George O'Kearney, Chilcompton; William Bird Herapath, Bristol; Thomas Bodkin, Bermondsey, London; Edward Lloyd, Tamworth; Edward Baily Tuson, Ilchester; Thomas Collingwood, Rochdale; Jonathan Henry Kimbell, Knowle, Warwickshire; John Hillier Blount; Edward Miller; George Frederick Hodgson.

BOOKS RECEIVED.

The Surgeon's Vade Mecum. By Robert Druitt, Surgeon. Third edition, with 95 Engravings. London: H. Renshaw, 1843. Pp. 572.

A concise Exposition of Homœopathy, its Principles and Practice, with an Appendix, containing a Statement of the Proceedings that led to the Author's Dismissal from the Situation of Medical Officer of the Glastonbury District of the Wells Poor-Law Union; Correspondence with the Poor-Law Commissioners on the Subject; Opinion of the Royal College of Physicians on Homœopathy. By George Newman, M.R.C.S.L. London: J. Leath, 1844. Pp. 68.

CORRESPONDENTS.

MR. PROCTOR'S CASE.—*To the Editor.*—Sir: Mr. Proctor's letter on the Curative Effects of Naphtha, in THE LANCET of last Saturday (page 216), leads your readers to infer that the case which he details was rejected as "consumptive," at the Colchester Hospital. We beg to state that no individual bearing the name of "Charles Perry" has presented himself for admission to this institution. We are, Sir, your obedient servants,

E. WILLIAMS, } Physicians.
R. CHAMBERS, }

Essex and Colchester Hospital,
Nov. 20, 1843.

M.R.C.S.L.—The degree of the U. of L. does not confer the right referred to. One of the Bills named contained a prohibitory clause on the subject of the second question, but the whole Bill went to the dogs. Whether any new measure will contain a similar clause it is not in our power to foretel. No measure of the present Government is likely to contain it.

The essay of *Mr. T. Wilkinson King*, on the Abuse of Sounding and Catheterism in Urethral Strictures, has been received.

An Old Subscriber may seek successfully for what he needs in the work of Mr. G. Pilcher. For the information asked in the second question application should be made to the Dean of Faculty in the University, who would forward a printed list of the regulations. Some account of them appeared in THE LANCET a few numbers since.

M. P.—It is hardly possible that Mr. T. C. can possess the diploma, licence, and degree that he advertises; but if M. P. finds, on inquiry, that he really does hold them, we advise M. P. to address, on the subject, at least two of the public bodies with which T. C. professes himself to be connected, and forward to us the correspondence which is elicited on the occasion.

The "official note" of *Messrs. Grant and Martin*, on the condition of the army medical department in India, shall be inserted.

R. C.—The person is eligible to be elected as surgeon to a union and the other posts named, and he may "safely engage in general practice" without being justly liable to the imputation mentioned; but he could not legally practise medicine as *an apothecary*.

A reply to *J. R.* next week.

The letters of *Mr. S. Williams* (Eastwood), and *Non-medicus*, next week.

Will *Sperans* point out the number in which he considers that the promise was made.

The communications of *Mr. M. D. Thompson*, and *W. C.* (Borough), next week.

Quispiam has come to hand.

To the Editor.—Sir: To what has the medical profession come at last? Pray read the circular that I enclose, which came to my house the other day. I suppose the advertiser thinks that when once he has attended the "poor women" (poor women!) he will be sure to attend them again, and that then he may begin his charges. I remain one who adopts the motto that

EVERY *Labourer* IS WORTHY OF HIS HIRE.

"Poor women, living within one mile of Christ Church, St. Marylebone, may be attended in their labours gratis. Personal application to be made to Mr. Robertson, No. 6, Melcombe-place, Dorset-square, between eight and ten in the morning."

*** In such cases notice should be given to the beadle or constable of the district, of *deaths in childbed*.

ERRATA.—The name, under the head of Prizes at Apothecaries' Hall, page 229, last week, should have been printed *Sutherin*, not "Southerin."—In the sub-heading to Dr. Barlow's lecture, at page 241, line 2, the word "doctrinal" should have been printed *devotional*.—In Mr. Macilwain's letter, page 191, column 1, line 9 from bottom, for "Mr. Lloyd, who *had* observed," read, Mr. Lloyd, who had *not* observed. Column 2, line 10, for "rest on," read, rests *it* on.